



State of Ohio Environmental Protection Agency

Northeast District Office

E. Aurora Road
burg, Ohio 44087-1969
, 425-9171
FAX (216) 487-0769

RECEIVED

SEP 18 1992

OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

George V. Voinovich
Governor

Donald R. Schregardus
Director

September 16, 1992

RE: GRADY MCCAULEY
MIDDLEBRANCH
STARK COUNTY

Ohio Department of Health
161 South High, Suite 400
Oliver Ocasek Building
Akron, OH 44308

Attn: Mr. Don Miles

Dear Don:

On August 26, 1992, Mr. Paul Dolensky and I obtained split soil samples from the Grady McCauley property in Middlebranch, Ohio. We also collected samples from the Jeffery Barr property which is immediately adjacent to the Grady McCauley property. We had Kemron Environmental Services analyze the samples for total lead. The testing was resultant from a 16 month old girl developing high lead levels at the Barr residence.

A copy of the test results is enclosed. All of the sample areas were reasonably low total lead, except for sample #9 (garage dust) and sample #10 (paint chips). The test results were 2900 mg/kg and 57,000 mg/kg respectively. Both of these samples were from the Barr property. I cannot see any connection with the soil clean-up at the Grady McCauley site.

If you have any further questions you may contact me at (216) 963-1200.

Sincerely,

Mark Bergman, R.S.
Environmental Specialist
Division of Hazardous Waste Management

enclosures

MB.wb

cc: Jeffrey Barr, Middlebranch, Ohio
Bob Shadle, Stark Co. Health Dept.
Matt Ohl, USEPA, Region V
Harry Courtright, DHWM, NEDO
Grady McCauley file



State of Ohio Environmental Protection Agency

Northeast District Office

1 E. Aurora Road
burg, Ohio 44087-1969
, 425-9171
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RECEIVED

JUL 6 1992

OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V

George V. Voinovich
Governor

Donald R. Schregardus
Director

June 29, 1992

RE: GRADY MCCAULEY
STARK COUNTY

Grady McCauley
7584 Whipple Avenue
North Canton, OH 44720

Attn: Mr. Dennis Grady

Dear Mr. Grady:

On June 4, 1992, I visited your facility located in Middlebranch. A contracting company was conducting clean-up on the lead contaminated areas. I met with Mr. James Marsall of the Hal Jones Construction Company.

Excavation of the contaminated soil appeared to be proceeding according to the U.S. EPA approved clean-up plan. I pointed out a few areas where the excavation needed to be a couple of inches deeper and the workers immediately complied. I suggested that confirmatory samples be collected before these areas were backfilled. Test results from these samples indicate TCLP lead below detection limits. Total lead results ranged between 14.2 mg/kg and 135 mg/kg.

I will forward a copy of this letter to Mr. Matt Ohl of the U.S. EPA. Any formal closure actions concerning the lead contaminated soil must come from the U.S. EPA.

Sincerely,

Mark Bergman

Mark Bergman, R.S.
Environmental Specialist
Division of Hazardous Waste Management

MB.wb

cc: Matt Ohl, U.S. EPA, Region V
Harry Courtright, DHWM, NEDO
Paul Vandermeer, DHWM, CO



Grady McCauley
INCORPORATED



7584 WHIPPLE AVENUE • NORTH CANTON, OHIO 44720 • PHONE (216) 494-9444 • FAX (216) 494-9991

RECEIVED

AUG 27 1992

OFFICE OF RCRA
Waste Management Division
U.S. EPA, REGION V.

June 16, 1992

Mr. Mark Bergman
Ohio Environmental Protection Agency
Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087

Dear Mark,

We have completed the soil removal at our Middlebranch facility as approved by Ohio EPA and US EPA.

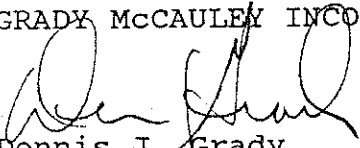
During your visit to the site while excavation was in progress, you requested additional "grab samples" be tested at the 2 foot level. Six test samples were taken prior to application of the clean fill. The test results are enclosed.

We would appreciate a letter from you stating that the lead / soil problem has been corrected to the satisfaction of Ohio EPA.

Please contact me if you have any questions.

Very truly yours,

GRADY McCAULEY INCORPORATED


Dennis J. Grady
Chief Executive Officer

DJG/pc

Enclosures

c: Mr. Philip Schillawski
Squire, Sanders & Dempsey

RECEIVED
JUN 17 1992
U.S. EPA, REGION V.

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

06/12/92

Laboratory Analysis Report

HAL JONES CONSTRUCTION CO.
7390 MIDDLEBRANCH
NORTH CANTON OH 44721

Client ID: 3109
Sample ID:9228 GRADY McCAULEY
Sample Description:
#1 GRAB AREA 1 CENTER

Comment:

Purchase Order No.:

Date Sampled:6-4-92
Time Sampled:10:53

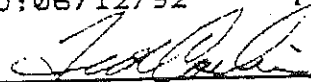
Date Received:06/04/92 Time Received:14:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9206096	T.C.L.P. EXTRACTION		GM USED=100	pH=6.90	06/08/92
	(1311) LEAD BELOW				
	LEAD AS Pb (6010)	<0.05	mg/l	0.05 mg/l	06/11/92
	TOTAL LEAD AS Pb (6010)	14.2	mg/kg	5.0 mg/kg	06/05/92

DATE REPORTED:06/12/92

TIME REPORTED: 9:32:38

REPORTED BY



fax

mail

phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

06/12/92

Laboratory Analysis Report

HAL JONES CONSTRUCTION CO.
7390 MIDDLEBRANCH
NORTH CANTON OH 44721

Client ID: 3109
Sample ID: 9228 GRADY McCAULEY
Sample Description:
#2 GRAB AREA 2A CENTER

Comment:

Purchase Order No.:

Date Sampled: 6-4-92
Time Sampled: 10:45

Date Received: 06/04/92 Time Received: 14:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9206097	T.C.L.P. EXTRACTION (1311) LEAD BELOW		GM USED=100	pH=8.40	06/08/92
	LEAD AS Pb (6010)	0.057	mg/l	0.05 mg/l	06/11/92
	TOTAL LEAD AS Pb (6010)	105	mg/kg	5.0 mg/kg	06/05/92

DATE REPORTED: 06/12/92 TIME REPORTED: 9:33:08

REPORTED BY Jack Pauli (fax) (mail) phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

06/12/92

Laboratory Analysis Report

Client ID: 3109

Sample ID:9228 GRADY McCAULEY

Sample Description:
#2 GRAB AREA 2B WEST

Comment:

HAL JONES CONSTRUCTION CO.
7390 MIDDLEBRANCH
NORTH CANTON OH 44721

Purchase Order No.:

Date Sampled:6-4-92
Time Sampled:10:51

Date Received:06/04/92 Time Received:14:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9206098	T.C.L.P. EXTRACTION (1311) LEAD BELOW		GM USED=100	pH=9.64	06/08/92
	LEAD AS Pb (6010)	<0.05	mg/l	0.05 mg/l	06/11/92
	TOTAL LEAD AS Pb (6010)	135	mg/kg	5.0 mg/kg	06/05/92

DATE REPORTED:06/12/92 TIME REPORTED: 9:36:58

REPORTED BY J. A. Cul (fax) (mail) phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

06/12/92

Laboratory Analysis Report

HAL JONES CONSTRUCTION CO.
7390 MIDDLEBRANCH
NORTH CANTON OH 44721

Client ID: 3109
Sample ID: 9228 GRADY McCAULEY
Sample Description:
#4 GRAB AREA 2B EAST

Comment:

Purchase Order No.:

Date Sampled: 6-4-92
Time Sampled: 10:48

Date Received: 06/04/92 Time Received: 14:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9206099	T.C.L.P. EXTRACTION (1311) LEAD BELOW		GM USED=100	pH=8.57	06/08/92
	LEAD AS Pb (6010)	<0.05	mg/l	0.05 mg/l	06/11/92
	TOTAL LEAD AS Pb (6010)	27.6	mg/kg	5.0 mg/kg	06/05/92

DATE REPORTED: 06/12/92

TIME REPORTED: 9:37:26

REPORTED BY

[Signature]

fax

mail

phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

06/12/92

Laboratory Analysis Report

HAL JONES CONSTRUCTION CO.
7390 MIDDLEBRANCH
NORTH CANTON OH 44721

Client ID: 3109
Sample ID: 9228 GRADY McCAULEY
Sample Description:
#5 GRAB AREA 3 CENTER

Comment:

Purchase Order No.:

Date Sampled: 6-4-92
Time Sampled: 10:56

Date Received: 06/04/92 Time Received: 14:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9206100	T.C.L.P. EXTRACTION (1311) LEAD BELOW		GM USED=100	pH=8.34	06/08/92
	LEAD AS Pb (6010)	<0.05	mg/l	0.05 mg/l	06/11/92
	TOTAL LEAD AS Pb (6010)	24.4	mg/kg	5.0 mg/kg	06/05/92

DATE REPORTED: 06/12/92 TIME REPORTED: 9:37:54

REPORTED BY Jack C. [Signature] ☒ fax ☒ mail ☐ phone

CASCHEM LABORATORIES, INC.
1712 11TH STREET, N.E.
CANTON, OHIO 44705
Phone (216) 588-TEST FAX:(216) 588-8412

06/12/92

Laboratory Analysis Report

HAL JONES CONSTRUCTION CO.
7390 MIDDLEBRANCH
NORTH CANTON OH 44721

Client ID: 3109
Sample ID:9228 GRADY McCAULEY
Sample Description:
#6 GRAB AREA 4 CENTER

Comment:

Purchase Order No.:

Date Sampled:6-4-92
Time Sampled:11:58

Date Received:06/04/92 Time Received:14:30

Lab Number	Test Description	Result	Unit	LOD	TEST DATE
9206101	T.C.L.P. EXTRACTION (1311) LEAD BELOW		GM USED=100	pH=7.61	06/09/92
	LEAD AS Pb (6010)	<0.05	mg/l	0.05 mg/l	06/11/92
	TOTAL LEAD AS Pb (6010)	26.5	mg/kg	5.0 mg/kg	06/05/92

DATE REPORTED:06/12/92 TIME REPORTED: 9:56:18

REPORTED BY [Signature] (fax) (mail) phone

P 593 67 442

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

James Saric (5HE-12) RCRA

* U.S.G.P.O. 1983-403-517 PS Form 3800, Feb. 1982	Sent to	Kenneth Moore, Esquire
	Street and No.	1800 Huntington Building
	P.O. State and ZIP Code	Cleveland, Ohio 44115
	Postage	\$ 1.25
	Certified Fee	75
	Special Delivery Fee	
	Restricted Delivery Fee	
	Return Receipt Showing to whom and Date Delivered	70
	Return receipt showing to whom, Date, and Address of Delivery	
	TOTAL Postage and Fees	\$ 1.67
Postmark or Date		



PS Form 3811, June 1982
33 447-845

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Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☒ Show to whom, date and address of delivery.

2. ☐ Restricted Delivery.

3. Article Addressed to:
Kenneth Moore, Esquire
Squire, Saunders, & Dempsey
1800 Huntington Building
Cleveland, Ohio 44115

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified <input type="checkbox"/> Express Mail	P 593 667 442
<input type="checkbox"/> Insured <input type="checkbox"/> COD	

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature — Addressee
X

6. Signature — Agent
X *J. D. Abington*

7. Date of Delivery
9-8-82

8. Addressee's Address (ONLY if requested and fee paid)

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UNITED STATES POSTAL SERVICE
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PENALTY FOR PRIVATE
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- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

**RETURN
TO** 

Mr. James Saric (5HE-12)

UNITED STATES OF AMERICA
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN STREET
CHICAGO, IL 60604

POSTAGE STAMPS TO ARTICLE TO COVER FIRST CLASS POSTAGE,
CERTIFIED MAIL FEE, AND CHARGES FOR ANY SELECTED OPTIONAL SERVICES. (see front)

1. If you want this receipt postmarked, stick the gummed stub on the left portion of the address side of the article leaving the receipt attached and present the article at a post office service window or hand it to your rural carrier. (no extra charge)
2. If you do not want this receipt postmarked, stick the gummed stub on the left portion of the address side of the article, date, detach and retain the receipt, and mail the article.
3. If you want a return receipt, write the certified mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. Otherwise, affix to back of article. Endorse front of article **RETURN RECEIPT REQUESTED** adjacent to the number.
4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse **RESTRICTED DELIVERY** on the front of the article.
5. Enter fees for the services requested in the appropriate spaces on the front of this receipt. If return receipt is requested, check the applicable blocks in item 1 of Form 3811.
6. Save this receipt and present it if you make inquiry.

5HE-12

3 SEP 1987

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Kenneth Moore, Esquire
Squire, Saunders, & Dempsey
1800 Huntington Building
Cleveland, Ohio 44115

Dear Mr. Moore:

On August 13, 1987, the United States Environmental Protection Agency (U.S. EPA) received an analytical report on groundwater samples obtained at Grady McCauley Creative Graphics. In reviewing the data, it was noted that the detection limit achieved was 1 ppb for xylene and ethylbenzene, and 5 ppb for isophorone in the samples from monitor wells 1A, 3A, and 11. However, the analysis of the sample from monitoring well 5 had detection limits of 250 ppb for xylene and ethylbenzene, and 50 ppb for isophorone. As these higher detection limits are significantly greater than the levels previously measured in the groundwater, monitor well 5 must be resampled for xylene, ethylbenzene, and isophorone. The resampling is necessary for U.S. EPA to determine if the hazardous constituents are present in monitoring well 5.

Please complete the above sampling and submit the results to U.S. EPA within forty-five (45) days of the date of this letter. If there are any questions please contact James Saric of my staff at (312) 353-7968.

Sincerely yours,

ORIGINAL SIGNED BY
WILLIAM E. MUNO

William E. Muno, Chief
RCRA Enforcement Section

cc: Grady McCauley
Attn: Dennis Grady

Mark Bergman, OEPA

Mike Savage, OEPA

5HE-12:JSARIC:mholman:3-7968:8-24-87

mmt 9/1/87

	TYPIST	AUTHOR	OTHER STAFF	INT. CHIEF	SECT. CHIEF	SECT. CHIEF	HWED CHIEF	WMD CH
INT. DATE	mmt 9/1/87	JS 9/1/87		JS 9-1-87	WEP 9/2/87	WEP 9/2/87		

24 JUN 1987

Dennis J. Grady
 Grady McCauley Creative Graphics, Inc.
 7930 Middlebranch Road
 Middlebranch, Ohio 45409

Dear Mr. Grady:

I have reviewed the latest water level measurements and the proposed location for the new monitor well, as illustrated in your letter to the United States Environmental Protection Agency dated June 16, 1987. I have conferred with Mark Bergman of the Ohio Environmental Protection Agency, (OEPA) and it was determined that the proposed location of the new monitor well is acceptable. Please proceed with the construction of the new monitor well using the same materials and procedures as your previous monitor wells.

If you have any questions please contact me at (312) 886-4439.

Sincerely yours,

James A. Saric
 RCRA Enforcement Section

cc: Squires, Saunders, & Dempsey
 Attn: Kenneth Moore

Mark Bergman, OEPA

5HE-12JSARIC:mholman:6-4439:6-23-87

INIT.	DATE	TYPE	AUTHOR	OTHER	DATE	DATE	DATE	DATE
		mt	JS		7/3			
	6/23/87		6/23/87		23-87			

24 JUN 1987

Dennis J. Grady
Grady McCauley Creative Graphics, Inc.
7930 Middlebranch Road
Middlebranch, Ohio 45409

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If you have any questions please contact me at (312) 886-4439.

Sincerely yours,

James A. Saric
RCRA Enforcement Section

cc: Squires, Saunders, & Dempsey
Attn: Kenneth Moore

Mark Bergman, OEPA

5HE-12JSARIC:mholman:6-4439:6-23-87

Squire, Sanders & Dempsey

*Additional Offices:
Brussels, Belgium
Columbus, Ohio
Miami, Florida
New York, New York
Phoenix, Arizona
Washington, D.C.*

*Counsellors at Law
1800 Huntington Building
Cleveland, Ohio 44115*

March 23, 1987

*Telephone (216) 687-8500
Cable "Squiresand"
Telex 985-661
Telecopier 1 (216) 687-8777
Telecopier 2 (216) 687-8780*

Direct Dial Number

(216) 687-8571

Waste Management Division
RCRA Enforcement Section
ATTN: Paul Dimock
U.S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois 60604

RECEIVED

MAR 25 1987

Division of Solid
& Hazardous Waste
Ohio Environmental Protection Agency
361 E. Broad Street
Columbus, Ohio 43216

U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT BRANCH

Re: In Re Grady McCauley Creative Graphics, Inc.
Case No. V-W-85 R-35

Dear Sirs:

This letter and its enclosures supplements the information submitted to U.S. EPA on behalf of Grady McCauley Creative Graphics, Inc. ("Grady McCauley") in my letter of March 2, 1987, a copy of which is enclosed for your convenience. As you may recall, my March 2, 1987 submittal included the Ohio Drilling Company's Status Report on Groundwater and Subsurface Soil Sampling dated February 23, 1987 and five supporting Analytical Reports from Wadsworth Laboratories.

This letter and a copy of the March 2 letter are also being submitted to Ohio EPA in full satisfaction of the requirements of the Consent Agreement and Final Order (CAFO), especially ORDER paragraph 9 (p. 5) which grants Grady McCauley 25 business days to notify U.S. EPA and Ohio EPA of the completion of the requirements in paragraph 3.

The copy of this letter being sent to U.S. EPA contains three replacement pages for the previously submitted Ohio Drilling Company's February 23 Status Report on Groundwater and Subsurface Soil Sampling: (1) corrected page 4; (2) corrected page 6; and (3) a corrected addendum page entitled "Chemical Analyses of the Soil

Page 2
March 23, 1987

Borings Replicates." The enclosed copy of Ohio Drilling Company's Status Report being sent to Ohio EPA in Columbus has already been updated with the new pages. Page 4 and page 6 have been corrected to report the results of the EP Toxicity test in the appropriate units of milligrams per liter (mg/l), not milligrams per kilogram (mg/kg). With this correction, the February 23 Status Report carries forward the same units of measurement employed by Wadsworth Testing Laboratories in its underlying Analytical Reports.

The addendum page entitled "Chemical Analyses of the Soil Borings Replicates" has been corrected to show information in mg/l, not ug/l. This correction makes the summary chart consistent with the body of the February 23 Status Report and the underlying Analytical Reports from Wadsworth Laboratories, Inc.

Finally, the second sentence in the second paragraph of my March 22 letter should be corrected to add the words: "samples from" before the words "23 soil borings."

This letter presents new information on the sampling results for lead from the monitoring wells. Grady McCauley was delighted that lead was not detected in the water samples from the eight monitoring wells. This is particularly significant since four replicates were analyzed for each monitoring well. Enclosed please find copies of the following new materials demonstrating the absence of lead in any of the water samples:

- (1) Summary sheet: "Lead Concentration in Monitoring Wells" to be inserted in the addendum of the Ohio Drilling Company, Status Report on Groundwater and Subsurface Soil Sampling; and
- (2) Wadsworth Laboratories, Inc., Analytical Report -- dated March 6, 1987

Please note that -- unlike the results for lead -- the results for isophorone, methylene chloride, ethyl benzene, and xylenes in the enclosed March 6, 1987 Analytical Report from Wadsworth/Alert Laboratories, Inc. were already summarized on one page in the addendum to the February 23 Ohio Drilling Status Report. This addendum summary sheet is entitled "Chemical Analyses of the First Round of Water Samples."

As pointed out in my letter of March 2, 1987, under the Consent Agreement and Final Order (CAFO), the data collected pursuant to the Sampling Plan becomes the basis for Grady

Page 3
March 23, 1987

McCauley's preparation of a Closure Plan for the dry wells (CAFO Order ¶4) and a Feasibility Study addressing any contaminated soil and groundwater (CAFO Order ¶7). Grady McCauley needs to know whether the two Agencies would like Grady McCauley to proceed with a second phase of soil sampling and/or groundwater monitoring for another 90 days before Grady McCauley prepares its Closure Plan and Feasibility Study. Should the Agencies desire additional sampling, Grady McCauley believes strongly that this Phase II of sampling should be focused based on the enclosed results from Phase I. The Phase I results bear on both the appropriate locations for sampling and the parameters to be sampled for.

In the March 2 letter and in this letter, Grady McCauley is making a 2 part proposal to U.S. EPA and Ohio EPA: (1) that the company exercise the option set forth in CAFO Order paragraph 3 and undertake a second phase of sampling for another 90 days before it prepares the Closure Plan and Feasibility Study called for by CAFO Order paragraphs 4 and 7; and (2) that the Phase II sampling should be refocused based on the results of Phase I sampling (A) to eliminate certain parameters which were either not detected or which were detected at levels far below Safe Drinking Water Act standards and Clean Water Act human health Water Quality Criteria and (B) to eliminate Well No. 4 in the northeast corner of the site from the next round of sampling set forth in Section 2.3.3.2 (p. 4) of the May 29, 1986 Sampling Plan. Ohio Drilling's Status Report (p. 3) explains that "Monitoring well #4 made little water during drilling and development since the formation was not very permeable." Furthermore, no lead or organics were detected in well #4 according to the Addendum pages in Ohio Drilling's Status Report entitled "Chemical Analyses of the First Round of Water Samples" and "Lead Concentrations in Monitoring Wells."

For U.S. EPA's and Ohio EPA's convenience in interpreting the results of the Phase I sampling, I have reproduced below in chart form the following stringent standards: for soil, U.S. EPA's EP toxicity level, and for water, either (A) Safe Drinking Water Act MCL standards or, in their absence, proposed RMCL standards, or (B) human health Water Quality Criteria.

Page 4
March 23, 1987

CHART A

Chemical	Milligrams per Liter (mg/l) Parts per Million (ppm)	Micrograms per Liter (ug/l) Parts per Billion (ppb)	Federal Register or Code of Federal Regulations (CFR) Citation
Lead in Soil	5.0	5,000	EP Toxicity level, 40 CFR §261.24 (Table 1)
Lead in Water	0.05	50	National Primary Drinking Water Regulations, 40 CFR §141.11
Lead in Water	0.05	50	Human Health Water Quality Criteria, 45 F.R. 79318 at 79336 (11/28/80)
Ethylbenzene in Water	1.4	1,400	Human Health Water Quality Criteria, 45 F.R. 79318 at 79334 (11/28/80)
Ethylbenzene in Water	0.68	680	RMCL proposed by U.S. EPA at 50 F.R. 46902 at 46994 and 47022 (11/13/85)
Xylene in Water	0.44	440	RMCL proposed by U.S. EPA at 50 F.R. 46902 at 47022 (11/13/85)
Isophorone	5.2	5,200	Human Health Water Quality Criteria, 45 F.R. 79318 at 79336 (11/28/80)

Although the use of Safe Drinking Water Act MCLs and proposed RMCLs and Human Health Water Quality Criteria are inappropriate and overly stringent for Grady McCauley's site, the data collected during Phase I shows that the site is already cleaner than these stringent levels.

Page 5
March 23, 1987

For your convenience, I have also reproduced below in chart form the Phase I sampling results. These results are displayed in a manner designed to facilitate comparison with the stringent Safe Drinking Water Act Standards and other standards in Chart A above.

**CHART B
PHASE I SAMPLING RESULTS**

GROUNDWATER

Eight Monitoring Wells (4 replicates)

Lead	None detected.	
Methylene Chloride	None detected.	
Ethylbenzene	None detected 1,400 ug/l 680 ug/l 5 to 7 ug/l	7 of 8 wells (all 4 replicates) Human Health Water Quality Criteria Proposed RMCL Well No. 1
Xylene	None detected 440 ug/l 11 to 14 ug/l	7 of 8 wells (all 4 replicates) Proposed RMCL Well No. 1
Isophorone	None detected 5,200 ug/l 92 to 120 ug/l 280 to 530 ug/l	6 of 8 wells (all 4 replicates) Human Health Water Quality Criteria Well No. 3A Well No. 5

SOIL

	23 Soil Borings 4 Replicates	3 New Monitoring Wells
Ethylbenzene	None detected	None detected
Xylene	None detected	None detected
Isophorone	None detected	None detected

Page 6
March 23, 1987

Lead	None detected in 11 borings (4 replicates). 5.0 mg/l-EP Tox level .06 to .28 mg/l in 12 borings (5 borings had detec- tions in only 1 of 4 replicates and only 1 bore hole had detections in all 4 replicates)	None detected
------	--	---------------

To facilitate a prompt response by Ohio EPA to Grady McCauley's 2 part proposal, I am sending a updated copy of Ohio Drilling Company's Status Report and my March 2, 1987 letter to Ohio EPA in Columbus and I am sending to the Northeast District Office of Ohio EPA in Twinsburg a duplicate set of the six Analytical Reports prepared by Wadsworth/Alert Laboratories. The Northeast District Office has already received an updated copy of Ohio Drilling's Status Report directly from Dennis Grady.

Grady McCauley would like to discuss this matter with you at your earliest convenience.

Thank you very much.

Sincerely yours,



Kenneth C. Moore

/eaw

Enclosures

cc: Mark Bergman, R.S.
Environmental Scientist
Div. of Solid & Haz. Waste Mgmt.
N.E. District Office, Ohio EPA



State of Ohio Environmental Protection Agency

Northeast District Office
2110 E. Aurora Road
Columbus, Ohio 44087-1969
425-9171

Richard F. Celeste
Governor

November 18, 1986

Mr. Dennis Grady
Grady-McCauley
7584 Whipple Ave.
North Canton, Ohio 44720

RECEIVED
NOV 20 1986
U.S. EPA, REGION V
HAZARDOUS WASTE MANAGEMENT DIVISION

Dear Sir:

On June 4, 1986, the Ohio EPA received a revised report entitled "Groundwater and Subsurface Soil Sampling Plan". This report has been reviewed and it appears to satisfy all of the concerns raised in a letter from Gary Gifford in December of 1985. The Ohio EPA approves this sampling plan and encourages Grady-McCauley to initiate it as soon as practical.

If you have any further questions, you may contact me at (216) 425-9171.

Sincerely,

Mark Bergman

Mark Bergman, R.S.
Environmental Scientist
Division of Solid and Hazardous Waste
Management

MB/sp

cc: Squire Sanders & Dempsey, Attn: Ken Moore
Rod Beals, DSHWM, NEDO
✓ Paul Dimock, U.S. EPA, Region V

Grady McCauley

CREATIVE GRAPHICS, INC.



7584 WHIPPLE AVENUE • NORTH CANTON, OHIO 44720 • PHONE (216) 494-9444

Certified Mail
Return Receipt Requested

June 16, 1987

Mr. James Sarec
United States Environmental
Protection Agency
Region V
230 South Dearborn St.
Chicago IL 60604

RE: 5HE-12

Dear Jim,

Regarding your letter received May 20, 1987, outlining the additional sampling agreed to in our telephone conference of April 22, 1987, we are ready to begin the drilling of an additional well.

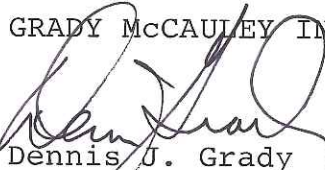
I'm enclosing a map showing the water level measurements taken June 11, 1987, confirming the direction of groundwater flow. Also, included on the map is the proposed location for the new monitoring well downgradient from LW3 and LW4. As requested in items 2 and 3 of your letter, we are submitting this information to you and to Ohio EPA and await your approval so we can begin drilling. We will then test MW1, MW3, and MW5 in addition to this new well for the following: Isophorone, Xylene, and Ethyl Benzene. It will not require replicate testing.

Regarding item 1 of your letter, we are currently working on a soil sampling plan which will be submitted to you and Ohio EPA for review and approval. We will have this plan completed and sent to you within the next two weeks.

We look forward to your prompt reply.

Very truly yours,

GRADY McCAULEY INCORPORATED


Dennis J. Grady
President

DJG/rna

Encl.

c: Mr. Mark Bergman, Ohio EPA
Mr. Ken Moore, Squire, Sanders & Dempsey

RECEIVED

JUN 19 1987

U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT BRANCH

Squire, Sanders & Dempsey

Additional Offices:

*Brussels, Belgium
Columbus, Ohio
Miami, Florida
New York, New York
Phoenix, Arizona
Washington, D.C.*

*Counsellors at Law
1800 Huntington Building
Cleveland, Ohio 44115*

May 30, 1986

Telephone (216) 687-8500

Cable "Squiresand"

Telex 985.661

Telex 1 (216) 687-8777

Telex 2 (216) 687-8780

Direct Dial Number

(216) 687-8571

FEDERAL EXPRESS

T. Leverett Nelson, Esq.
Assistant Regional Counsel
U.S. EPA Region V
230 S. Dearborn St., 5C-16
Chicago, Illinois 60604

RECEIVED
JUN 2 1986
U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT GROUP

Re: In Re Grady McCauley Creative Graphics, Inc.
Case No. V-W-85 R-35

Dear Counselor:

As part of their effort to achieve a reasonable settlement of this matter, Dennis Grady and Dave McCauley have asked their environmental consultant, Frank Boinski, to prepare a consolidated sampling plan. I am enclosing for your review a copy of the May 29, 1986 Final Revision by Boinski Environmental Consultants, Inc. to the Groundwater and Subsurface Soil Sampling Plan for Grady McCauley's Middlebranch Road Location.

As you will quickly note, this final consolidated Sampling Plan follows the same format as Grady McCauley's original proposal. It has been changed to respond to a number of points which were raised by Ohio EPA and U.S. EPA in an undated letter from Gary Gifford of Ohio EPA received by Grady McCauley last December. In this connection, please refer to Dennis Grady's January 17, 1986 letter to Gary Gifford.

The enclosed final Sampling Plan has also been revised to take account of the limited amount of time provided for digging new wells, soil and groundwater sampling, laboratory analysis, evaluation, stream sampling, laboratory analysis, evaluation, and preparation of a written report. As you may recall, U.S. EPA originally proposed that Grady McCauley complete the activities covered by the Sampling Plan in 180 days. However, following Dennis Grady's January 17, 1986 letter to Gary Gifford on the Sampling Plan, U.S. EPA sent us a proposed Consent Agreement and Final Order on February 14, 1986 requiring completion of the activities described in the Sampling Plan within 90 days. As you

Page 2
May 30, 1985

know, the parties have agreed to separate the work into two Phases of 90 days each. Grady McCauley will proceed to Phase II only if the groundwater monitoring during Phase I discloses levels of contamination requiring an expansion in the size of the study area. The enclosed consolidated Sampling Plan reflects this two Phase approach.

In reviewing the enclosed final Sampling Plan, it is important to place it in the context of the previous sampling work which has already been submitted to U.S. EPA and Ohio EPA. As I mentioned to you during our last conversation, the amount of sampling and analytical work which this little business has done on its plant and office site is more extensive than the work done in Remedial Investigations on several Superfund Act sites on the National Priority List.

As you know, it is important to Grady McCauley to know the extent of further sampling work which Ohio EPA and U.S. EPA will require. The costs of sampling alone could have a materially adverse impact on this small enterprise and Dennis and Dave cannot proceed prudently without knowing the extent of the financial commitment which they are being asked to make. Accordingly, confirming my request from several months ago, Grady McCauley would like to have written approval of the enclosed final Sampling Plan from both Ohio EPA and U.S. EPA prior to executing any settlement.

I will call you in the middle of next week to discuss this case to see if we can reach a final resolution.

Sincerely yours,



Kenneth C. Moore

/eaw
Enclosure
cc: Paul Dimock (enc.)



BOINSKI ENVIRONMENTAL CONSULTANTS, INC.

GROUNDWATER AND SUBSURFACE SOIL SAMPLING PLAN
GRADY McCAULEY CREATIVE GRAPHICS, INC.
MIDDLEBRANCH ROAD LOCATION
MIDDLEBRANCH, OHIO 44652

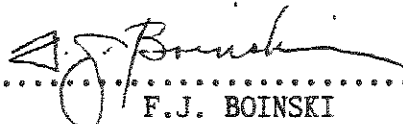
FINAL REVISION

MAY 29, 1986

PREPARED BY:

BOINSKI ENVIRONMENTAL CONSULTANTS, INC.
682 OSAGE ROAD
PITTSBURGH, PA 15243

APPROVED BY:



.....
F.J. BOINSKI
EXECUTIVE VICE PRESIDENT

1.0 Introduction

This sampling plan was prepared in response to concerns raised by the Ohio Environmental Protection Agency (Ohio E.P.A.) and the U.S. Environmental Protection Agency, Region V (E.P.A.) relative to the possible contamination of subsurface soils and groundwater underlying the Grady McCauley Creative Graphics, Inc. (Grady McCauley), Middlebranch, Ohio, plant and office facility. It is hypothesized that past, discontinued practices of discharging wastewater generated during screen cleaning operations through either of two leach well systems may have introduced organic and metallic chemical contaminants to the immediate environment.

A preliminary, screening survey of the potentially affected areas and aquifers was conducted during the period of March-July, 1985. Although data generated during this initial program is statistically insignificant, extremely low concentrations of several compounds were measured. In the interest of determining whether a contamination problem exists or, if a problem is verified, the extent and severity of the problem, Grady McCauley has elected to proceed with the sampling plan described below.

2.0 Scope of Work

The development of this plan included a review of historical information regarding the facility and its operation, interviews with its present owners, and conversations and correspondence with the Ohio E.P.A. and E.P.A. On this basis the scope of work is divided into the matrices of surface and subsurface soils and groundwater.

2.1 Surface and Subsurface Soils

2.1.1 Vicinity of Monitoring Wells 1 and 1A

Since minor apparent contamination of surface and subsurface soils was reported from the results of the screening survey, this area will be included in this study. Minimal, reported contamination of this area is attributed to the only marginally successful operation of Leach Wells 1 and 2. These wells repeatedly plugged and overflowed during their active lives; on several occasions, leach well overflow was observed percolating to the soil surface immediately above their buried location. These wells were pumped dry and filled with sand in May or June of 1983, several months before Grady McCauley took over the business on 9/1/83, and have not been used since that time. Consequently, potential residual contamination is believed to be confined to the immediately adjacent area.

Samples will be collected at ten foot intervals along a radius extending from the geometric center of the area above the buried leach wells to Grady McCauley's property line. The radius will be parallel to the apparent direction of subsurface water flow. Samples will be collected to a depth of five feet. Individual samples will be field screened; those samples exhibiting apparent organic compound contamination will be analyzed using the methods and procedures described below. All samples will be extracted, and the extract will be analyzed for its lead content utilizing the "EP toxicity test" described below.

2.1.2 Vicinity of Monitoring Wells 3 and 3A

Since minor apparent contamination of surface and subsurface soils was reported from the results of the screening survey, this area will be included in this study. Minimal, reported contamination of this area is attributed to its former use as a trash collection and burning site. Since all trash and burned residual trash were removed several years ago, it is reasonable to assume that no new sources of potential contamination exist. Consequently, any potential residual contamination is believed to be confined to the immediate vicinity of the former trash collection area.

Samples will be collected at ten foot intervals along a radius extending from the geometric center of the former trash collection and burning site to Grady McCauley's property line. The radius will be parallel to the apparent direction of subsurface water flow. Samples will be collected to a depth of five feet. Individual samples will be field screened; those exhibiting apparent organic compound contamination will be analyzed using the methods and procedures described below. All samples will be extracted pursuant to the "EP toxicity test", and the extract will be analyzed for its lead content utilizing the procedures described below.

2.2 Additional Monitoring Well Development

Drilling of all new wells will be supervised by a qualified geologist who will maintain logs which will include, at a minimum, technical descriptions of soils and rock encountered during drilling to bedrock. Soil samples will be collected at five foot increments using the "hollow tube" method of sample collection. Each sample will be labeled with respect to well number and the depth at which it was collected. Individual samples will be field screened; those exhibiting apparent organic compound contamination will be analyzed using the methods and procedures described below. Each of the first four samples collected during the drilling of each new well will be extracted, and the extract will be analyzed for its lead content utilizing the "EP toxicity test". All remaining samples will be composited, and the composite will be field screened for organic compounds; those exhibiting apparent contamination will be analyzed utilizing the methods and procedures described below. The composite sample will be extracted pursuant to the "EP toxicity test", and the extract will be analyzed pursuant to the procedures described below. Should the results of the analysis of a composite sample exceed the RCRA concentration limit for lead, each individual sample comprising the composite will be analyzed individually to define the zone(s) of contamination. (Note: the sampler will be thoroughly cleaned with water and hexane after each sample is collected.)

2.3 Groundwater Monitoring Wells

The previous study area will be initially expanded to include three new wells which are labeled No. 4, No. 5, and No. 9 on the attached topographic map. The locations of these wells were chosen on the basis of the presumed groundwater flow direction demonstrated by the results of the screening survey and at the request of Ohio E.P.A. Also, wells No. 4 and No. 5 are located at the northeastern and southeastern extremes of Grady McCauley's property boundaries.

Should Phase I study results, from groundwater monitoring indicate levels of contamination requiring an expansion in the size of the study area, the previously hypothesized hydraulic connection between groundwater and the Middle Branch of the Nimishillen Creek will be investigated further. Two sampling stations will be located approximately two hundred yards upstream and downstream of the stream segment believed most likely to be influenced by a groundwater contribution. If one or more of the contaminants listed below are detected in the stream at levels requiring preparation of a feasibility study, Grady McCauley will proceed to that task. If none of the contaminants listed below are detected during the stream sampling program, it will be assumed that the leading edge of the groundwater plume has not migrated to this distance.

This result may lead to a Phase II study which will include the installation of two additional monitoring wells which are labeled No. 7 and No. 8 on the attached topographic map. Although they will not be located on Grady McCauley property, they will be valuable in supplying information regarding possible contamination at a "mid point" between the initial study expansion area and the stream.

2.3.1 Well Drilling and Development

The wells will be drilled using the hollow stem auger drilling method. As described above, subsurface soil samples will be collected concurrently with the drilling of each well. Each well will be advanced by driving a casing and drilling out the encased materials. The hollow tube sampler will be driven five feet ahead of the casing to collect undisturbed soil samples. The casing will then be driven to the depth of the sampler. This sequential process will be repeated until bedrock is reached.

Stainless steel screen(s) will be installed at the interval(s) selected from drilling logs. Subsequent to the selection of a screening interval(s), an appropriate length of PVC pipe, will be inserted into the casing. The casing will be extracted to allow adjacent soils to cave around the screen(s). When a screen is sufficiently exposed, the remaining casing will be removed and the hole will be backfilled with bentonite pellets to the surface; the monitoring zone(s) may be packed with sand at the discretion of the on-site geologist. A galvanized steel casing with locking cap will be fitted over the top of the PVC pipe; this casing will be driven into the ground and held in place by a concrete cap on the hole. All standard, accepted QA/QC procedures will be followed at all times.

2.3.2 Sample Collection

Each well will be bailed empty three times prior to the collection of a water sample. Water samples to undergo organic analyses will be collected in duplicate and stored in labeled amber bottles with septum tops. These samples will be refrigerated at all times prior to their analysis. Water samples to undergo lead analyses will be collected in duplicate, preserved with nitric acid to a pH<2, and stored in glass sample bottles.

2.3.3 Water Sample Collection Frequency

Water samples will be collected during two separate sampling rounds. Grady McCauley will attempt to conduct one of the sampling rounds subsequent to a significant precipitation event to define "wet weather" conditions. Grady McCauley will further attempt to conduct one of the sampling rounds subsequent to a period when no precipitation events have occurred to define "dry weather" conditions.

2.3.3.1 Initial Sampling Round

Thus, the initial sampling round, whether "wet" or "dry" weather, will include the following eight wells: 1, 1A, 2, 3, 3A, 4, 5, and 9. Well "nesting" will be limited to wells 1 and 1A and 3 and 3A, the previously identified sources of measurable contamination. The results of the screening survey demonstrated no measurable contamination whatsoever at any of the adjacent, privately owned wells. Moreover, they are located upstream with respect to the apparent direction of groundwater flow. Consequently, no private wells will be included in the initial sampling rounds.

2.3.3.2 Second Sampling Round

The second sampling round, whether "wet" or "dry" weather will be limited to the following wells: 2, 4, 5, and 9.

3.0 Analytical Procedures

All sample analyses will be conducted employing only procedures and techniques approved by E.P.A. All QA/QC precautions intrinsic to the methods will be adhered to at all times.

3.1 Soil Samples

3.1.1 Organic Compound Analyses

All samples will be extracted with hexane prior to undergoing subsequent analytical procedures. Extracted samples will undergo the following analytical procedures:

3.1.1.1 Volatile Organic Compounds

Each sample will be analyzed for its ethylbenzene, methylene chloride, and xylene concentrations using gas chromatographic techniques pursuant to E.P.A. Methods Nos. 602, 601, and 602, respectively.

3.1.1.2 Base Neutral Compounds

Each sample will be analyzed for its isophorone concentration utilizing mass spectroscopic techniques pursuant to E.P.A. Methods 625 and 1625.

3.1.1.3 Lead Analyses

Each sample will be extracted pursuant to the "EP toxicity test" described in 40 C.F.R., Part 261, Appendix II. Lead concentration analyses will be completed pursuant to 40 C.F.R., Part 261, Appendix III.

3.2 Water Samples

3.2.1 Organic Compound Analyses

3.2.1.1 Volatile Organic Compounds

Each sample will be analyzed for its ethylbenzene, methylene chloride, and xylene concentrations using gas chromatographic techniques pursuant to E.P.A. Method Nos. 602, 601, and 602, respectively.

3.2.1.2 Base Neutral Compounds

Each sample will be analyzed for its isophorone concentration utilizing mass spectroscopic techniques pursuant to E.P.A. Methods 625 and 1625.

3.2.1.3 Lead Analyses

Each sample will be analyzed for its lead concentration using atomic absorption spectroscopic techniques pursuant to 40 C.F.R., Part 261, Appendix III.

3.3 Replicate Analyses and Treatment of Data

Four replicate analyses will be conducted on each soil and water sample. The results of these analyses will be averaged, and individual results will be compared to the mean to determine whether they fall within a predefined confidence interval. Upgradient and downgradient concentrations will be compared to determine whether statistically significant increases across the site are evidenced. The primary statistical vehicle will be the "t" test.

4.0 Project Schedule

Drilling of new wells 4, 5, and 9 and concurrent subsurface soil sampling can be completed within a Phase I period of 90 days commencing on the effective date of the Consent Agreement and Final Order in Case No. V-W-85-R-35 before U.S. E.P.A. Soil sampling in the areas above Leach Wells 1 and 2 and Leach Wells 3 and 4 will also be completed within Phase I. Should stream sampling be required, it will be completed as a Phase I activity.

5.0 Status Report

A status report describing all field work, analytical information, and preliminary conclusions will be issued following the completion of laboratory analyses and before the end of Phase I. Depending on the nature, level(s), and location(s) of any contamination identified, this report may recommend additional sampling. The status report will be considered the technical basis for determining what, if any, additional work may be required to effect a cost-effective improvement of the quality of the immediate and/or surrounding environment.



January 17, 1986

Mr. Gary Gifford
Unregulated Sites Coordinator
Ohio E.P.A.
Northeast District Office
2110 E. Aurora Road
Twinsburg, OH 44087

RECEIVED

JAN 21 1986

OHIO EPA-N.E.D.O

Dear Gary,

This letter responds to your recent transmittal of comments regarding the proposed sampling plan for our Middlebranch Road location. As you will quickly note, we have agreed with almost all of your requests, including your request for another well. We have taken this approach because, as you know, we have been trying to work amicably with Ohio EPA and U.S. EPA. Thus, we have done and will continue to do what is reasonable to deal with the residue of the very small amounts of waste which were generated when the screens which we use to print signs were washed.

As modified, the work called for by the Sampling Plan, together with the previous wells we have dug at the site and the wells which existed at the site beforehand, will result in a relatively large number of wells for the size of the site and the concentrations and nature of the contaminants. Accordingly, we are concerned that Ohio EPA's and U.S. EPA's approach to this case not develop an internal dynamic which ignores the fact that we are not a Fortune 500 industrial company or a Superfund Site on the National Priority List, but rather a small company which is essentially a partnership and which inherited a problem and a method of handling waste from the previous owners. We are more than willing to do what other very small businesses are asked to do, but our financial resources do not permit us to assume the same kind of burden that a large corporation can. Accordingly, we hope that you will not misread our extensive agreement with your requests as evidence of unlimited resources.

To reach agreement, we accede to your request regarding Items 1, 2c, 2d, 2e, 2g, 2h, 2i, and 2j.

- 2a) We will consider "nesting" wells after the "new" wells to bedrock are drilled and sampled at least twice. Entries in boring logs which indicate the apparent, visible contamination

2a) contd.

of subsurface soils or the presence of significant contamination in "deep" groundwater will be used as the criteria upon which a decision to "nest" a well(s) will be made.

2b) New Monitoring Well No. 9 will be located at the southeast corner of the Annex.

2f) Monitoring zones will be packed with sand if, in the opinion of the on-site geologist, this is necessary.

3) The sampling plan will be expanded to include the requested information.

4) Four replicate analyses will be conducted on leach sample. The results of these analyses will be averaged, and individual results will be statistically compared to the mean to determine whether they fall within a predefined confidence interval. Upgradient and downgradient concentrations will be compared to determine whether statistically significant increases are evidenced. The primary vehicle for this analysis will be the "t" test.

5) All samples will be analyzed for concentrations of lead during the first two sampling rounds. A decision whether to continue lead analyses on all or selected samples will be made on the basis of these results.

6) Five rounds of sampling were proposed for two reasons:

a. We believe that the proposed sampling program is necessary to generate sufficient statistically valid information to be used as the basis for undertaking any remedial measures, if they are warranted.

b. Conducting five sampling rounds greatly increases the probability that individual samples will be collected during different conditions caused by changes in season and meteorology.

7) The proposed schedule was constructed for the purpose of not only identifying and quantifying any contamination of subsurface soil and water, but also to determine the effects of seasonal, and corresponding weather, changes on measured contaminant concentrations. It may be possible to compress the schedule if initial sampling results indicate the absence of significant contamination.

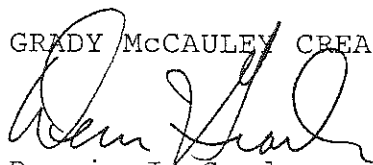
We believe that the sampling plan as proposed, and as modified in response to your comments, should generate accurate, representative, and defensible information adequate for the purposes and goals of the data collection. In recognition that remedial activities may necessitate expenditures in the tens of thousands of dollars,

we want to insure, to the maximum possible degree, the dual goals of monies being spent as cost-effectively as possible and the environment being cleaned up to an acceptable level.

Thank you for your consideration of our responses. Please call if you would like to discuss any of the above matters in greater detail.

Very truly yours,

GRADY McCAULEY CREATIVE GRAPHICS, INC.



Dennis J. Grady
President

DJG/klv

C.C. Paul Dimock, U.S.EPA 2-12-86



State Of Ohio Environmental Protection Agency

Northeast District Office
2110 E. Aurora Road; Twinsburg, Ohio 44087-1969

(216) 425-9171



Mr. Dennis Grady
Grady - McCauley, Inc.
7584 Whipple Avenue
North Canton, Ohio 44720

Dear Mr. Grady:

Since our telephone conversation of December 10, 1985, both Ohio and U.S. EPA have completed review of the November 26, 1985 Sampling Plan for the Middlebranch facility. This letter transmits review comments for both agencies:

- 1) The extent of soil contamination from each leach well needs to be defined to assure proper selection of the remedial option. One method of investigation would include a series of soil borings with in-field soil sample screening. The screening could reduce the number of samples requiring laboratory analysis. The location of tentative boring/sampling locations should be indicated on the site map.
- 2) The ground water assessment program should include or address the following items:
 - a. new monitor wells may need to be constructed as well "nests" to investigate the apparent layering of contaminants found in the previous investigation,
 - b. a monitor well should be located in the vicinity of the Annex (southeast corner suggested),
 - c. new wells should be logged by a geologist for soil/rock technical descriptions,
 - d. the initial round of well sampling should include all monitor wells and all downgradient existing wells (to the stream); adjacent private wells (upgradient) may be useful; the number of wells involved in any re-sampling could be adjusted as appropriate,
 - e. we recommend hollow stem auger drilling methods,
 - f. monitor wells may require sand packing of the monitoring zone,
 - g. details of the new well development methodology should be provided,
 - h. a minimum of 3 well volumes should be removed ahead of sampling,
 - i. the assessment report should include the bedrock information from the previous investigation,
 - j. the report should estimate pertinent hydrogeological parameters, such as hydraulic conductivity and flow rate.

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JAN 8 1986

U.S. EPA, REGION V
WASTE MANAGEMENT DIVISION
HAZARDOUS WASTE CONTROL UNIT (HQ-51)

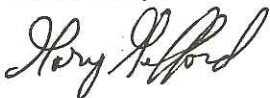
Richard F. Celeste, Governor

Mr. Dennis Grady
Grady - McCauley, Inc.
Page Two

- 3) The sample plan should include details of sampling method (equipment, etc.) and specific U.S. EPA approved analytical methods.
- 4) If a statistical method is used to review data, the method should be specified.
- 5) Selected samples should also be analyzed for inorganic parameters, e.g. lead.
- 6) We do not feel this project requires five rounds of water sampling. We feel fewer rounds with more sampling points will provide a clearer definition of the situation.
- 7) We feel the overall schedule as proposed is needlessly long. We expect to have remedial actions underway in the summer of 1986.

Should you have any questions, please contact me at (216) 425-9171.

Sincerely,



Gary Gifford
Unregulated Sites Coordinator
Division of Solid and Hazardous Waste Management
Northeast District Office

GG:kr

cc: Mark Bergman, DSHWM, OEPA, Northeast District Office
Ed Kitchen, DSHWM, OEPA, Central Office - Columbus
P. Dimock, U.S. EPA - Region V - Chicago



State Of Ohio Environmental Protection Agency

Northeast District Office
110 E. Aurora Road; Twinsburg, Ohio 44087-1969

(216) 425-9171

Mr. Dennis Grady
Grady - McCauley, Inc.
7584 Whipple Avenue
North Canton, Ohio 44720



Richard F. Celeste, Governor
RECEIVED
OHIO EPA

DEC 19 1985

DIV. OF SOLID & HAZ. WASTE MGT.

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Mr. Dennis Grady
Grady - McCauley, Inc.
Page Two

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- 7) We feel the overall schedule as proposed is needlessly long. We expect to have remedial actions underway in the summer of 1986.

Should you have any questions, please contact me at (216) 425-9171.

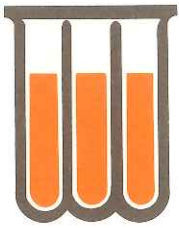
Sincerely,



Gary Gifford
Unregulated Sites Coordinator
Division of Solid and Hazardous Waste Management
Northeast District Office

GG:kr

cc: Mark Bergman, DSHWM, OEPA, Northeast District Office
Ed Kitchen, DSHWM, OEPA, Central Office - Columbus
P. Dimock, U.S. EPA - Region V - Chicago



WADSWORTH
TESTING
LABORATORIES,
INC.

P.O. Box 208, 1600 Fourth Street, S.E., Canton, Ohio 44701 (216) 454-5809

August 6, 1985

Grady-McCauley Creative Graphics, Inc.
7390 Middlebranch Rd.
Middlebranch, Ohio 44652

Dear Sirs:

Wadsworth Testing Laboratories, Inc., with the assistance of the Ohio Drilling Company, Inc., is pleased to submit the attached ground water assessment report of the Grady-McCauley site in Middlebranch, Ohio.

This report is a compilation of previous interim reports and includes results of our July ground water monitoring activities. The report is intended to satisfy the outline of our proposed "Ground Water Assessment" dated December 26, 1984, and the project tasks discussed in our June 14, 1985 letter.

Should you have any questions or comments, feel free to contact us. Thank you for your interest in our services.

Respectfully submitted,

WADSWORTH TESTING LABORATORIES, INC.

John B. Bradshaw
Manager of Laboratory Services

JBB:pjh

Enclosure



STARK COUNTY HEALTH DEPARTMENT

209 West Tuscarawas Street

CANTON, OHIO 44702

Telephone: 438-0470

WILLIAM J. FRANKS, M.P.H.

Health Commissioner

GRANT A. MASON, JR., M.D.

Medical Director

REV. OTTO R. GERBER, D.D.

President-Board of Health

BOARD MEMBERS:

C. J. SWALLEN

MRS. BERTHA HALLAS

MARGARET SHIPLEY, MD

BLAIR ZIMMERMAN

MRS. RUTH HARBOLD

STEVE J. KIMES

February 13, 1985

Subject: Grady-McCauley, Inc.
Dice Decal Nuisance Investigation
7390 Middlebranch NE, Plain Township

Owners: Dennis Grady and David McCauley

On the afternoon of February 4, 1985 the Stark County Health Department received a nuisance complaint about the above listed firm indicating health, and fire hazards existed and that many were being covered up. Copies of the complaint were to have been sent to TV Stations and other News Media.

February 5, 1985 this writer and Supervisor Robert Shadle met with Plain Township officials Fire Chief Clarence Snyder, Fire Prevention Officer Tom McCulline, Zoning Inspector George Kasper, and Administrator Robert McMann to discuss and pursue these allegations. It was decided that myself, Robert Shadle and Tom McCullen would go to the company and ask to inspect the premises.

At approximately 11:30 AM we met with the owners, Dennis Grady and David McCauley. They also received a copy of the alleged complaint with an attached addendum which attacked the characters of these gentlemen using very foul and abusive language. Mr. McCauley personally took us through the plant showing us the various procedures, inks and chemicals used in their silk screening operation.

There is a small amount of MEK used for clean up purposes when using clear varnish or lacquers. This is cleaned up by retrieving and is stored in a 55 gallon drum which, when full, is sent to an EPA approved disposal company (Envirite Corporation).

A 55 gallon drum of MEK is stored in a locked metal shed behind the wash up room. The wash and clean up room where the inks are removed from the silk screens has a reclamation unit to collect the cleaning solvents and sludges from the inks. Most of the cleaning solvents used now are made of bio-degradeable materials. We were shown where and how all inks, chemicals, and materials are stored and used. Mr. Grady informs us the Industrial Commission of Ohio had employees wear monitoring devices about three years ago to check the air for toxic level values from materials being used. Results negative.

The EPA conducted tests on the water of which we have a report on file.

Wadsworth Testing Laboratories have tested all of the surrounding water wells next to the company of which they have a report on file.

The Grady McCauley Company is going to have the soils tested and analyzed in the near future.

The old building had a three compartment tank and leach well which was pumped every six months. This is the area where the soil will be checked, because 25 years ago the solutions were much stronger than what is being used today and some solvents were apparently disposed of in the sewage system at that time. They are not going to pump the system until they check with the EPA to make sure the effluent can be hauled by a local pumper and disposed of as in the past.

A separate building that is leased by Grady McCauley has a sub-surface filter bed system. It is not receiving any liquids from the company. This building is used for employees lunch room, storage and shipping.

Mr. Dave McCauley has for two years been on the Health and Safety Committee for the Screen Printers Association which meets every year in Washington to review and recommend regulations.

Summation:

In my opinion and that of Robert Shadle, the health complaints are not valid. It would seem a disgruntled employee or an ex-employee has an axe to grind.

This company seems to have a genuine concern for the health and welfare of it's employees and surrounding neighbors.

Sincerely,
The Stark County Health Department

John E. Steffen, Health Sanitarian

cc: Joe Dopler
Robert Shadle
Plain Twp.
Grady McCauley
Doug. Hasbrook

JES:bjs

FEB - 6 1985

OHIO EPA-N.E.D.O.

A DECLARATION

Let it be known that the inhabitants of the small community of Middlebranch, Ohio have had our fill of ineffectual actions taken towards offenders of society in general and our community in particular. Our water systems, air, streams, and bodies are being harmed and polluted. Chemicals that cause sterility, birth defects, cancer, and untold mental disorders are being used and abused by companies that are only concerned with profits, not people. Even these profits are gotten in illegal ways.

The company we make reference to is the Grady/McCaully Corp. It was formerly called Dice Decal. Let the following be known as the facts discovered by a private investigation by Middlebranch residents:

1. This company realizes the dangers present. They try to keep their employees quiet by installing minimal ventilation fans, by not telling them the truth about the dangers, and by trying to threaten them with loss of employment.
2. Case in point concerning item number 1. They had an afternoon supervisor. He teaches at Glenoak High School. His name is John Virido. He was intelligent, very industrious, and well-liked by the "hourly" employees. His faults-----he would not lie for the company. He had made some of the employees aware of the dangers of these chemicals when they asked. They got rid of him. They replaced him with a guy that is at best lazy, makes mistake after mistake, and can be describe most appropriately as incompetent. His assets-----when asked about anything about chemical dangers he answers, "I wouldn't know about any of that stuff."
3. During a recent inspection by governmental authorities, the owners of the company, Dennis Grady and Dave McCaully, did knowingly and willfully act to defraud these agencies. On the day of the inspection they had Norman Menegay and Darryl Frazee move the dangerous, polluting chemicals into a vehicle and then placed this vehicle in another building that would not be inspected. After the inspection day supervisors Dave Miller and Dave Pohl brought the chemicals back for wash-up. These chemicals are customarily washed right down the drains at this company. The chemicals involved are chemicals such as MEK.
4. Children can come onto this property and come into direct contact with these dangerous, explosive chemicals. They are not in a fenced-in area.
5. Printers from this company should be checked by way of blood and fatty tissue samples to determine the accumulative effects and their concentrations. They are not provided with proper protective clothing.
6. All office workers are in constant danger. If a fire were to engulf the one small, steep, hazardous stairway, all people would be killed. There is no emergency exit for office workers. A secondary escape should be installed.

7. This company recently did away with an employee retire plan. By the letter of the law it was handled properly. Morally it was done in a way to cheat the employees out of their money due to their ignorance of the law.
8. There are two sets of books kept. The one set is for tax purposes, the other is to keep track of true company profits.
9. Items 7 and 8 were done to make the necessary capital required to buy another company located at a near by industrial park.
10. If all neighbors would be contacted privately a true picture could be formulated concerning pollutions.
11. If "hourly" employees would be contacted privately so there would be no fear of reprisal, alot of information could be obtained concerning any and all of these matters.

We demand that something be done. These matters should be dealt with swiftly and thoroughly as they are an attack on the community of Middlebranch, Ohio, Stark County, the State of Ohio, and the Federal Government of which we are all a part.

Concerned Citizens for a Safe Middlebranch

Copies to:

TV3, TV5, TV8, The Beacon Journal, The Repository, OSHA, Internal Revenue, Stark County Board of Health, Industrial Commission of Ohio/Safety and Hygiene, Grady/McCauly.

Ohio EPA

Mr. David McCauley
Grady-McCauley Creative Graphics, Inc.
7390 Middlebranch Road
Middlebranch, Ohio 44652

January 10, 1985

Dear Mr. McCauley:

Thank you for providing me with a copy of Wadsworth Testing Laboratories' "Ground Water Assessment Proposal" dated December 26, 1984. Our review of the proposal finds it to be generally satisfactory, and we have no objection to initiation of the assessment as proposed.

We have several comments on the proposal. Many of these items are implied in the proposal; they are being listed here to avoid confusion in later reviews. Most of these comments can be addressed within the assessment report:

1. Hydrogeological investigation comments:

- a. The study should determine geological character to bedrock.
- b. The test holes should be developed into monitoring wells to allow repeat sampling, water level determination, and general monitoring as needed.
- c. The report should include well (and test hole) installation details, construction materials information, and well elevation and water level data.
- d. Monitor wells should be completed to the same saturated unit. This should result in a true potentiometric surface from which accurate flow direction can be determined.
- e. Well "nests" may be useful in the investigation.

2. The assessment report should include a Quality Assurance/Quality Control Plan that includes a written sampling plan.

3. The "sufficient chemical analysis" should include volatile organic and toxic heavy metals analysis. Routine ground water indicator parameters may be useful. At a minimum, at least one priority pollutant scan per sample matrix should be included (excepting the pesticide fraction).

RECEIVED

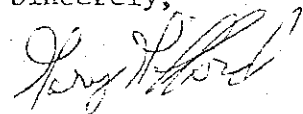
JAN 25 1985

January 10, 1985

We feel the above items will substantially aid both your and our review of the assessment's findings, and lead to prompt decisions on any required remedial efforts.

We appreciate your prompt response to this matter. Please notify me when the assessment effort begins.

Sincerely,



Gary Gifford
Environmental Scientist
Division of Solid & Hazardous Waste Management
Northeast District Office

GG:kr

cc: Douglas C. Hasbrouck, District Chief, OEPA, Northeast District Office
Roger Hannahs, OEPA, DSHWM, Central Office

RECEIVED

JAN 25 1985

OHIO EPA-N.E.D.O.

Ohio EPA

Grady-McCauley
7390 Middlebranch Road
Middlebranch, Ohio 44654

January 2, 1985

Attn: Dennis J. Grady

Dear Mr. Grady:

We have received your December 12, 1984 letter and your December 13, 1984 well sampling report. We appreciate your expression of commitment to resolve the ground water contamination issues at Grady-McCauley and we look forward to continued cooperation.

We have reviewed the December 13th report prepared by Wadsworth Testing Laboratories on the drinking water sampling of nearby wells. As indicated in the report, the two "down hill" wells showed methylene chloride at 1 ug/l (one part per billion). No other volatile organic compounds were detected in any of the five wells sampled for analysis.

The State of Ohio has not established standards for methylene chloride. We usually rely on Federal standards for this type of pollutant. Federal standards could fall into at least two categories: (1) National Primary Drinking Water regulations and (2) Water Quality Criteria for priority pollutants. In reviewing the literature we note that National Primary Drinking Water standards have not been set for methylene chloride and probably will not be established this year. The June 13, 1984 Federal Register comment on Dichloromethane (methylene chloride) is attached for your review.

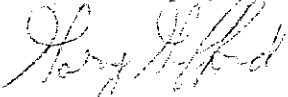
The U.S. EPA has proposed water quality criteria or guidelines for priority pollutants (such as methylene chloride). The suggested acceptable concentration for methylene chloride lies within the range of zero to 1.9 ug/l. We will attach a page from that document also.

Based upon the above comments and our discussion with our OEPA water supply personnel in Columbus, we feel the two wells showing methylene chloride are acceptable for use. However, periodic monitoring should be considered. We also should note the two water supplies involved came under local and state health jurisdiction rather than under ours. We have discussed this situation with Bill Franks, the Stark County Health Commissioner and we will forward a copy of this letter to him for his information and for any additional advice or direction they may wish to offer.

January 2, 1985

As a closing comment, we anticipate reviewing your site investigation plan in the near future. Again, our thanks for your efforts to date. Should you have any questions, please feel free to contact the writer.

Sincerely,

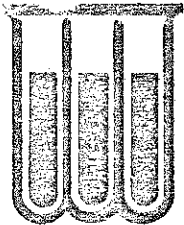


Gary Gifford
Unregulated Sites Coordinator
Division of Solid & Hazardous Waste Management
Northeast District Office

GG:kr

Enclosures

cc: B. Franks, Stark County Health Department
M. Bergman, OEPA, DSHWM, Northeast District Office
D. Porter, Ohio Department of Health, Akron
T. Baclawski, OEPA, DPWS, Northeast District Office
R. Hannahs, DSHWM, Central Office



WADSWORTH
TESTING
LABORATORIES,
INC.

RECEIVED DEC. 7 1984

P.O. Box 208, 1600 Fourth Street, S.E., Canton, Ohio 44701 (216) 454-5809

December 26, 1984

Grady McCauley Creative Graphics, Inc.
P.O. Box 165
7390 Middlebranch Rd.
Middlebranch, Ohio 44652

Attn: Mr. David McCauley

GROUNDWATER ASSESSMENT PROPOSAL

The recent discovery of the presence of organic solvents in the soil and groundwater on the Grady McCauley property has dictated that remedial action be undertaken. Neighboring water wells have been sampled with no organics being detected in those wells immediately to the north, west and south of the plant. Very low level concentrations were detected in the two well samples taken from areas east and southeast of the plant.

Since the contamination seems to be localized near the plant itself, the initial investigative steps to determine the extent of the contamination can be minimized. WADSWORTH TESTING LABORATORIES, with the assistance of The Ohio Drilling Co., proposes the following assessment plan.

1. Immediately begin the study of available area well logs and other geologic information to aid in the interpretation of the data developed by the field work.
2. Drill approximately four test holes at carefully chosen locations for the purpose of determining contamination levels in the soil and water as well as providing hydrogeological data.
 - a. At least one test hole is necessary to determine the depth of the contamination near the suspected source.
 - b. Other test holes are necessary to determine the vertical as well as the lateral migration of the contamination from the source(s), especially to the south and east.



- c. Sufficient chemical analyses of the soil and/or water samples taken from each test hole will be performed to give an accurate assessment of the contamination.
 - d. If zones of high groundwater contamination are found, the test holes will be converted to water sample holes by screening them at the affected depths.
3. Following the drilling of the initial set of test holes, a hydrogeologic model will be developed for the affected area using the data obtained in steps 1 and 2. The model will propose source, distribution and dynamics of the contaminant plume. This information will be presented to Grady McCauley personnel. Subsequent presentations to the Ohio EPA will follow as required.

If a refinement of the model is then deemed necessary, further test holes may be needed.

4. A remedial clean-up plan can be developed from the information presented in the above assessment.

If there are questions concerning this proposal, feel free to contact me at 454-5809.

Sincerely,

WADSWORTH TESTING LABORATORIES, INC.

Marvin W. Stephens

Marvin W. Stephens, Ph D.
Vice President & Technical Director

MWS/sph

Grady McCauley

CREATIVE GRAPHICS, INC.



7390 MIDDLEBRANCH RD., MIDDLEBRANCH, OHIO 44652 • PHONE (216) 494-9444

December 12, 1984

Mr. Gary Gifford
Ohio EPA
Northeast District Office
2110 E. Aurora Road
Twinsburg, OH 44087

Dear Mr. Gifford,

In the absence of Mr. McCauley, I am responding to your letter of December 10, 1984, requesting written confirmation of our intent to comply with the objectives outlined in our recent meeting.

As you know, we have already had all neighboring well water tested for possible contamination. The results of these tests were communicated verbally to Mr. Hasbrouck on December 7, 1984. We were very pleased to find out that no contamination of these wells existed. A written report from Wadsworth Testing Laboratories should be in our office tomorrow and will be forwarded immediately to you.

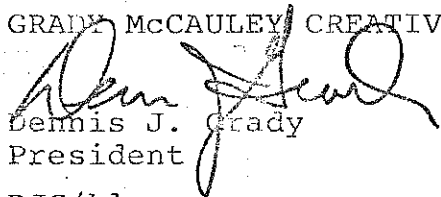
We are proceeding immediately to determine the extent of any ground contamination. Wadsworth Testing Laboratories, in conjunction with Ohio Drilling Company, plans a survey of our property this week for the purpose of determining the location of test borings. As discussed with you on the telephone today, we will submit a plan to you prior to the initiation of any drilling.

We are presently, and will continue to investigate solvent reclamation systems and other alternative disposal systems for our waste solvents. We will consult with your office as we progress in this area.

We are happy to cooperate with any reasonable request made by your agency in determining the extent of any current contamination and in improving our methods of handling solvent disposal.

Very truly yours,

GRADY MCCAULEY CREATIVE GRAPHICS, INC.


Dennis J. Grady
President

DJG/klv

cc: Bill Franks, Stark County Health Department
✓ Mark Bergman, Div. of Solid & Hazardous Waste Management,
Northeast District Office
Douglas C. Hasbrouck, Dist. Chief, Northeast District
Office
David N. Wertz, Div. of Solid & Hazardous Waste Management
Northeast District Office

Ohio EPA

Mr. David McCauley
Grady McCauley
P.O. Box 165
Middlebranch, Ohio 44652

December 10, 1984

Dear Mr. McCauley:

This letter will summarize the discussions between your firm and Ohio EPA on December 5, 1984. Grady McCauley was represented by Dennis Grady, you, and Marvin Stephens of Wadsworth Labs. Ohio EPA was represented by Douglas C. Hasbrouck, David N. Wertz and this writer.

As outlined at the meeting, Ohio EPA is concerned over the possibility of drinking water contamination due to historical disposal of waste solvents at Grady McCauley and, formerly, Dice Decal. Initial investigations, conducted by you and Wadsworth Labs, have demonstrated soil and ground water contamination in the immediate vicinity of your building. The current situation has resulted in our advisory against consumption of your facility's well water.

Our concerns center on the extent of contamination, and the establishment of assurances that future contamination will not occur. A near future concern will be the remediation, or clean-up, of the contamination to eliminate any possible threats to public health or the environment.

To address our first concern, Grady McCauley has agreed to have drinking water from immediate area water wells tested. This testing will occur within several days.

Grady McCauley has also agreed to consider conducting an investigation of the "extent of contamination". Prior to initiation of such a study, we request an opportunity to review the study plan.

Finally, Grady McCauley has agreed to review its operations to ensure proper management of non-sanitary type waste streams that may be industrial or hazardous wastes. Our office can assist in this review as needed.

Please be assured the Ohio EPA appreciates your offer of cooperation in this matter. We request Grady McCauley commit, in writing, to carry-out

Mr. David McCauley
Grady McCauley

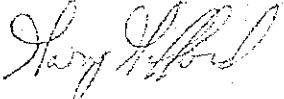
December 10, 1984

Page Two

an environmental investigation of this matter as soon as possible. This commitment should be made no later than December 17, 1984.

Should you have any questions in this matter, feel free to contact Mark Bergman or this writer at (216) 425-9171.

Sincerely,



Gary Gifford
Unregulated Sites Coordinator
Division of Solid and Hazardous Waste Management
Northeast District Office

GG:kr

cc: Bill Franks, Stark County Health Department
Mark Bergman, Division of Solid and Hazardous Waste Management,
Northeast District Office
Douglas C. Hasbrouck, District Chief, Northeast District Office
David N. Wertz, Division of Solid and Hazardous Waste Management,
Northeast District Office
Roger Hannahs, Division of Solid and Hazardous Waste Management,
Central Office - Columbus



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LABORATORIES, INC.

Sampling, testing, mobile labs

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1600 Fourth Street, S.E./ P.O. Box 208 / Canton, OH 44701 / (216) 454-5809

ANALYTICAL REPORT

GRADY-McCAULEY

Presented to :

GEORGE MAYHEW

OHIO DRILLING

WADSWORTH/ALERT LABORATORIES, INC.

Marvin W. Stephens

Marvin W. Stephens, Ph. D.

Vice President & Director General Laboratory Program

October 7, 1987



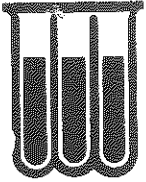
CORPORATE AND LABORATORY: Canton, Ohio (216) 454-5809

LABORATORY: Cleveland, Ohio (216) 642-9151

LABORATORY: Bartow, Florida (813) 533-2150

SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590

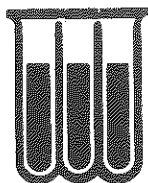
24-HOUR **ALERT LINE:** (216) 454-8304



WADSWORTH/ALERT
LABORATORIES, INC.

SAMPLE NARRATIVE

This report contains the analytical results for one water sample submitted by Ohio Drilling from the Grady McCauley Site. The analyses were performed using GC/MS Methods 8240 and 8270 for ethylbenzene, xylene and isophorone only. The elevated detection limits for the volatile compounds was due to the presence of other compounds not requested.



WADSWORTH/ALERT
LABORATORIES, INC.

GC/MS ANALYTICAL REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 2728-42493
SAMPLE MATRIX : WATER

RECEIVING DATE : 9/18/87
ANALYSIS DATE : 9/24/87
EXTRACTION DATE : 9/24/87

SAMPLE ID : MW5 9/18/87 10:15

PARAMETER	RESULT (ug/l)	DETECTION LIMIT
Ethylbenzene	ND	25
Isophorone	97	10
Xylenes	ND	25

ND - NONE DETECTED

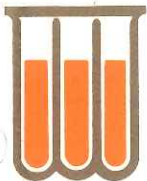
Chain of Custody Record

Project Name: GRADY-McCAULEY

Sampler: OHIO DRILLING CO., TOP

[illegible]

Relinquished By:		Received By:	Date and Time
1	<i>Alan Krue</i>	<i>Alexis Dangel</i>	9/18/97 11:00 AM
2			
3			
4			
5			
6			



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ANALYTICAL REPORT

GRADY McCAULEY

Presented to :

G.P. MAYHEW

OHIO DRILLING

WADSWORTH/**ALERT** LABORATORIES, INC.

Marvin W. Stephens

Marvin W. Stephens, Ph. D.

Vice President & Director General Laboratory Program

August 5, 1987



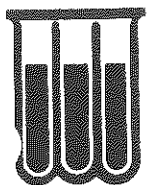
CORPORATE AND LABORATORY: Canton, Ohio (216) 454-5809

LABORATORY: Cleveland, Ohio (216) 642-9151

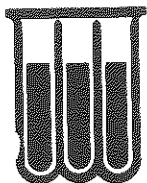
LABORATORY: Bartow, Florida (813) 533-2150

SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590

24-HOUR **ALERT LINE**: (216) 454-8304



WADSWORTH/ALERT
LABORATORIES, INC.



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

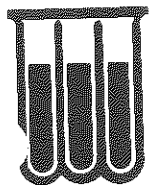
COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40246
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87

SAMPLE ID : 1A 7/30/87 13:00

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Ethyl Benzene	ND	1
Xylenes	1	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

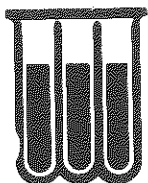
COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40246
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87
EXTRACTION DATE : 8/ 3/87

SAMPLE ID : 1A 7/30/87 13:00

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone	ND	5

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

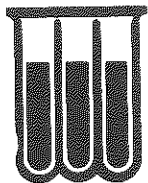
COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40247
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87

SAMPLE ID : 3A 7/30/87 13:30

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Ethyl Benzene	ND	1
Xylenes	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40247
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87
EXTRACTION DATE : 8/ 3/87

SAMPLE ID : 3A 7/30/87 13:30

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone	ND	5

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40248
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87

SAMPLE ID : 5 7/30/87 14:30

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Ethyl Benzene	ND	250
Xylenes	ND	250

ND - NONE DETECTED

MATRIX INTERFERENCE DUE TO PRESENCE OF ISOPHORONE AND OTHER UNIDENTIFIED COMPOUNDS.



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

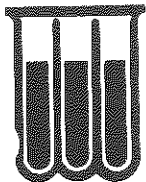
COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40248
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87
EXTRACTION DATE : 8/ 3/87

SAMPLE ID : 5 7/30/87 14:30

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone	380	50

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

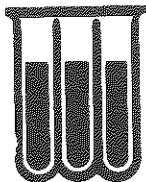
COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40249
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87

SAMPLE ID : 11 7/30/87 19:39

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Ethyl Benzene	ND	1
Xylenes	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 2079-40249
SAMPLE MATRIX : WATER

RECEIVING DATE : 7/31/87
ANALYSIS DATE : 8/ 4/87
EXTRACTION DATE : 8/ 3/87

SAMPLE ID : 11 7/30/87 19:39

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone	ND	5

ND - NONE DETECTED

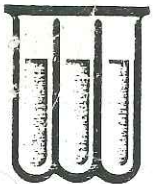
Chain of Custody Record

Project Name: Grady McCawley

Sampler: CLYN Davis

[illegible]

Relinquished By:		Received By:	Date and Time
1	Blair R. Davis	Henry P. Matthews	3/12/87 07:00
2	George R. Mayhew	Alexis Daxford	3-7-87 08:28
3			
4			
5			
6			



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GW

ANALYTICAL REPORT

GRADY MC CAULEY

Presented to:

G.P. Mayhew

OHIO DRILLING

WADSWORTH/ALERT LABORATORIES, INC.

Marvin W. Stephens

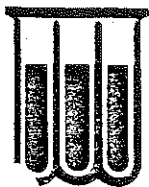
Marvin W. Stephens, Ph.D.

Vice President & Director General Laboratory Program

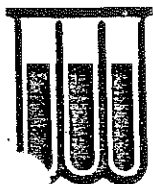
March 6, 1987



CORPORATE AND LABORATORY: Canton, Ohio (216) 454-5809
LABORATORY: Cleveland, Ohio (216) 642-9151
LABORATORY: Bartow, Florida (813) 533-2150
SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590
24-HOUR ALERT LINE: (216) 454-8304



WADSWORTH/ALERT
LABORATORIES, INC.



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29622
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (A)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	7	1
Methylene Chloride	ND	1
Xylene	14	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

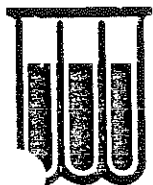
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29622
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29623
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	6	1
Methylene Chloride	ND	1
Xylene	13	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

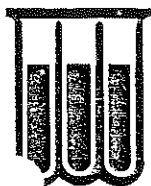
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29623
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

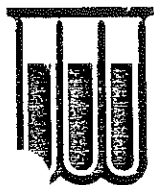
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29624
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	5	1
Methylene Chloride	ND	1
Xylene	11	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29624
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

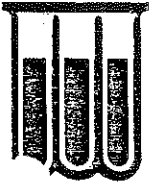
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29625
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	5	1
Methylene Chloride	ND	1
Xylene	11	1

ND -- NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29625
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1 (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

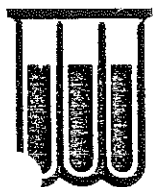
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29626
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (A)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29626
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



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GAS CHROMATOGRAPH ANALYSIS REPORT

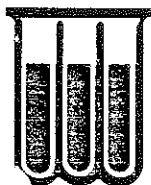
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29627
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29627
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29628
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29628
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29629
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29629
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 1A (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

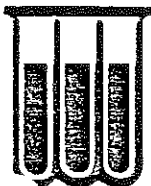
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29630
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (A)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29630
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



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GAS CHROMATOGRAPH ANALYSIS REPORT

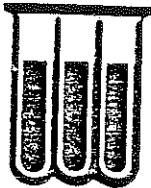
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29631
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



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METALS ANALYSIS REPORT

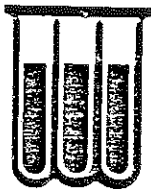
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29631
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

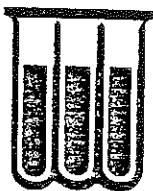
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29632
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



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METALS ANALYSIS REPORT

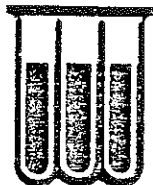
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29632
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29633
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

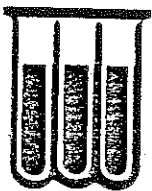
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29633
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 2 (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29634
SAMPLE MATRIX : WATER

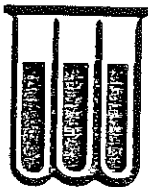
RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (A)

PARAMETER

RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	5
Ethylbenzene	1
Methylene Chloride	1
Xylene	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

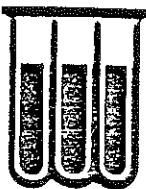
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29634
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

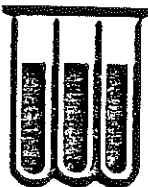
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29635
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

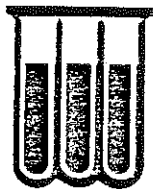
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29635
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

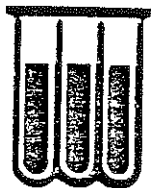
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29636
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29636
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

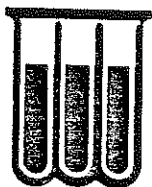
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29637
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

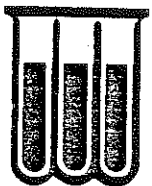
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29637
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3 (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

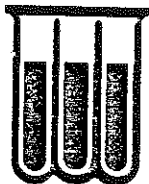
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29638
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A (A)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	120	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



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LABORATORIES, INC.

METALS ANALYSIS REPORT

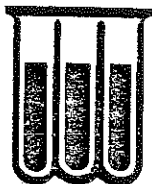
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29638
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29639
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A. (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	100	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
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METALS ANALYSIS REPORT

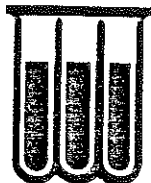
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LABORATORY ID : 6903-29639
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29640
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	91	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29640
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29641
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	92	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29641
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 3A (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29642
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (A)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29642
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29643
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

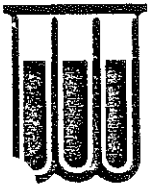
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SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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GAS CHROMATOGRAPH ANALYSIS REPORT

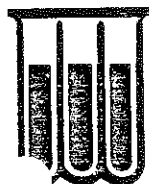
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LABORATORY ID : 6903-29644
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29644
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

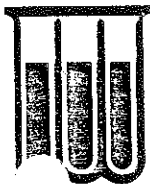
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LABORATORY ID : 6903-29645
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

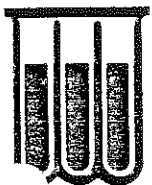
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LABORATORY ID : 6903-29645
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 4 (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29646
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (A)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	530	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

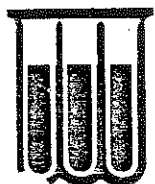
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LABORATORY ID : 6903-29646
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

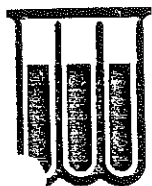
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29647
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	280	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29647
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

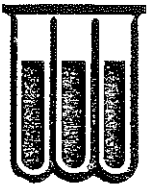
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29648
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	400	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29648
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

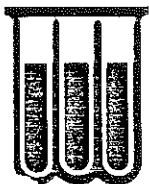
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LABORATORY ID : 6903-29649
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	440	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29649
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 5 (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

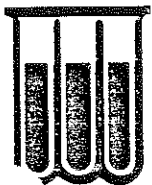
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29650
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (A)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29650
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (A)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

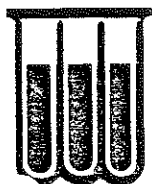
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29651
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (B)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29651
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (B)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

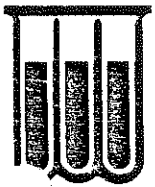
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29652
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (C)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

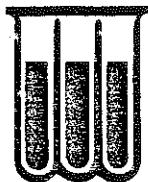
COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29652
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (C)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

GAS CHROMATOGRAPH ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29653
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (D)

PARAMETER	RESULT (ug/L)	DETECTION LIMIT
Isophorone (Method 8090)	ND	5
Ethylbenzene	ND	1
Methylene Chloride	ND	1
Xylene	ND	1

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6903-29653
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/14/87

SAMPLE ID : MONITORING WELL 9 (D)

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED

GROUNDWATER AND SUBSURFACE SOIL SAMPLING

for

Grady McCauley Creative Graphics, Inc.

Middlebranch, Ohio

February 23, 1987

by

The Ohio Drilling Company

Massillon, Ohio

INTRODUCTION

The Ohio Drilling Company was hired by Grady-McCauley Creative Graphics, Inc. to implement a groundwater and subsurface soil sampling plan promulgated by the consultant, Boinski Environmental Consultants.

The sampling plan called for the drilling and sampling of three monitoring wells and the sampling of soils at and around the two so-called leach wells in back of the plant. The plant is no longer generating wastes and is presently unoccupied.

A previous set of monitoring wells was emplaced two years ago. The present plan incorporates their use as sampling points in addition to the newer wells and boring to achieve a better comprehension of what undesirable materials may be present, how they are distributed and how the remedial work might be best accomplished. Every effort was made to adhere to the approved work plan with regard to specifications and their intention.

All analytic data, well logs, construction diagrams and hydrogeological plots generated as a result of this work will be found in the back of this report.

FIELD WORK

Before moving to the site all casing and drilling tools were decontaminated by heating in a large high temperature oven (where practical) and steam cleaning. No greases, oils or solvents were used to assemble tools or drilling pipe. Teflon tape was used at threaded connections where some sort of lubricating material was needed. All sampling equipment was thoroughly decontaminated between samplings using reagent grade methanol followed by several rinses of deionized water. Before use the sampler was allowed to completely air-dry.

Soil samples were taken at 5-foot intervals and immediately placed in brown, air-tight jars with Teflon lids. At the end of each work day they were taken to Wadsworth/Alert Laboratories, Inc. for "field" screening and analysis. A chain of custody form followed each sample.

The drilling was begun with monitoring well #4, located in the northeast corner of the plant site. The drilling and sampling penetrated various alluvial materials such as sand and clay. Shale bedrock was reached at 26 feet below the surface. The cuttings displayed no odor or discoloration which would be considered unusual. The well was provided with PVC

flush-joint casing and screen. Since the final two feet were clay, the clay was screened from 19 to 24 feet below grade. The well made little water when drilled and developed. The formation is quite poor at this site. A cement apron was poured around the well casing at the surface and a galvanized protective steel casing with locking cap was set over the monitoring well and into the cement.

Next, monitoring well #9 was drilled and sampled. Drilling and sampling procedures were identical for all holes. Bedrock here was reached at a depth of 47 feet and was shale. The monitoring well was screened from 30 to 35 feet below grade. After development the well made more than either #4 or #5. The well was finished below grade since it was drilled in a busy driveway. A water-tight locking casing protector of galvanized steel was placed over the well and set into cement to prevent drainage from effecting the installation.

Well #5 was drilled between #4 and #9. Shale bedrock was encountered at 25 feet below grade. The monitoring well was screened from 15 to 20 feet below the surface. After development the well made more water than #4 but much less than #9. The monitoring well was finished at the surface in a manner identical to #9 for the same reasons.

Following the drilling of the monitoring wells a series of soil sample borings were made using the same type of rig and hollow tube sampler. The hollow tube sampler is capable of recovering three 5-foot long tubes of undisturbed formation material of the type found at this site.

A radius was drawn from each leach well site parallel to the assumed ground water direction to the plant property line. The 5-foot deep soil sample borings were spaced as closely as practical to the proposed 10-foot interval along each radius line. Some had to be displaced to avoid a building and filter bed system. The sampling tool was thoroughly wiped down with clean absorbent cloths and decontaminated with reagent-grade methanol and deionized water between each sampler use. The samples were immediately placed in sealed jars identical with those used above and delivered expeditiously to Wadsworth/Alert labs for screening and analysis. A chain of custody form was filled out for each sample. After each boring was made the hole was backfilled with a bentonite-sand-portland cement mixture to the surface to prevent percolation of surface water.

SITE GEOLOGY

Stratigraphic records made during the drilling of monitoring wells 4, 5 and 9 confirm the geologic interpretations resulting from the initial round of drilling during 1985. The sandstone and shale bedrock is overlain by a basal stoney clay with a very tough fabric which produces no water. This unit is interpreted as a late Wisconsin till deposit left behind in the pre-glacial valley. Above it are varying sequences of sand, sand and gravel, and silty clay which represent glacial outwash materials grading upwards into normal alluvial sediments deposited by streams very much like that presently occupying the valley. The mapped locations and stratigraphic logs of the monitoring wells are found at the back of the report.

SITE HYDROGEOLOGY

The tops of the 2" PVC casing of all three wells were shot with a transit and related to the elevations of the previous series of wells. A USGS benchmark located on the southeast corner of the bridge abutment on Werner Church Road over Nimishillen Creek was used as datum for the survey. A round of water levels was taken in both the new and older series of wells to update the previous piezometric surface evaluation. The resulting piezometric surface contour map is presented in the back of the report. Monitoring well #4 made little water during drilling and development since the formation was not very permeable. Water level data from this well should be carefully considered. The water-bearing formation tends to get better toward the south end of the site. The plant well is finished in sand and gravel and is situated on a terrace approximately 15 feet above the present series of wells. The aquifer consists of a 10 to 15 foot thickness of sand and gravel which lies approximately 5 to 10 feet below the surface. The grain size varies greatly with location and depth.

The piezometric map of the water table surface shows a gradient towards the east in the general direction of the Nimishillen Creek. The map was generated using water level elevations from the five monitoring wells and can be considered to represent a "dry" season water table. A previous map from earlier work based on three monitoring wells in May 1985 shows the gradient to be towards the southeast. There are three possibilities to explain the shift in groundwater movement. Firstly, the plant well is no longer in use and therefore is not affecting the contours. Secondly, the direction of flow may be a

function of differing hydraulic heads due to seasonal variation. Lastly, it is always better to extrapolate from five points rather than three. It is felt all three of these factors are at work here.

Water level elevations taken on Nimishillen Creek indicate the possibility of a hydraulic connection between it and the groundwater system under investigation. Further field work would be necessary to prove the connection beyond a doubt.

SOIL BORING ANALYSES

As stated above, soil borings were obtained at approximately 10 foot intervals paralleling the direction of groundwater flow. One such line originated at leach well near MW1 and another was begun in the area where materials used to be disposed of by incineration. A location map and data table in the report appendix describe the findings. Each hole was bored to a depth of 5 feet. A composite sample of the soil material was taken and divided into four units for replicate analysis per the Work Plan. Each sample underwent a GC volatile field scan to check for VOC's. The leachate analysis for lead content was conducted using guidelines set forth in US EPA Manual SW846 Method 1310.

Of the twenty-three borings, one showed lead levels in all four replications equal to or exceeding .05 mg/l. An additional four sample hole locations showed detectable lead in three of the four replicates. Of the remainder, seven showed detectable lead in at least one of the replications. No volatiles were detected in any of the soil borings.

It is felt that the majority of the lead in the soil borings is due to precipitation runoff carrying the material down-slope from local hot spots and depositing it at or near the ground surface. Thus some of the 5-foot soil column would be contaminated while the rest of it would be clean. Hence some of the four sample replicates are clean while others show lead. The areas where three or more of the replicates show detectable lead could be considered spill areas, or at least close to such areas. The highest measured lead level was 0.28 mg/l at boring S-14.

MONITORING WELL ANALYSES

Three new monitoring wells were drilled to increase the total number of site wells to six. Soil samples were collected during the drilling continuously using 5 foot sample cores. All were analyzed for lead and organics. Neither was found in any of the soil samples.

Each was drilled to bedrock and completed in the water-bearing zone with 2" diameter flush joint PVC casing and 5 feet of 20-slot PVC screen. The wells are finished as shown in the appendix.

Following development of the wells, a round of water sampling was undertaken. Four replicates of each sample were collected to be analyzed for volatile organic compounds, base-neutral compounds and lead. Results are given in the report appendix. The samples were collected and analyzed by Wadsworth/Alert Laboratories, Canton, Ohio.

Wells numbered 1 and 1A had no detectable isophorone or methylene chloride. Well #1 had ethylbenzene (replicate mean 5.8 ug/l) and xylene (replicate mean 12.3 ug/l).

Wells #2 and #3 contained no detectable amounts of isophorone, methylene chloride, ethylbenzene or xylene.

Well #3A was found to have isophorone (replicate mean 100.8 ug/l), but no methylene chloride, ethylbenzene or xylenes.

Well #4 was below detection limits on all above compounds.

Well #5 contained isophorone (replicate mean 412.5 Ug/l) and no other compounds.

Well #9 was also found to be free of detectable contamination by the above compounds.

Comparison of present contaminant values with those obtained in the previous site work for the wells #1, 1A, 2, 3 and 3A show that levels have been reduced significantly in all instances.

The field work done in 1985 determined that of the first five wells drilled, #3A was the most contaminated. The isophorone level was 300,000 ug/l then, compared to the presently measured replicate mean of 100.8 ug/l. With the groundwater gradient producing flow toward the east one would predict well #5 to show elevated levels of isophorone, which is found to be the case. Wells #4 and #9 were unaffected. The fact that the isophorone concentration in #5 is four times that of #3A would suggest that the plume originated from a one-time or discontinuous source near #3A which has since moved eastward toward the creek in the year and one-half between samplings. The tremendous disparity between the original concentration in #3A of 300,000 ug/l and the much smaller values presently measured for both #3A and #5 could result from several processes working independently or in common. Some of these mechanisms include seasonal down-flushing from precipitation, chemical or biochemical breakdown into other compounds, and the waning of a discontinuous source (as mentioned earlier).

Unfortunately, the total lead analyses for the water samples from the monitor wells was not available at this writing. It is expected they will be received in a few days and will be submitted forthwith for review along with an assessment of their impact on the investigation.

CONCLUSION

Two areas of concern are apparent from the site investigation. First, there is an area of soil contamination which centers around the south eastern portion of the plant site. Lead concentrations exceeding .05 mg/l are found in this area. Their spotty nature and the fact that contamination is not present in all replicates suggests that the contamination is the result of several small spills rather than a massive and prolonged event. The groundwater appears to be contaminated with isophorone in a narrow plume whose major axis is to the east through monitoring wells #3A and #5.

Small amounts of ethylbenzene and xylenes were found to be present in well #1, which represent a localized spill most probably. These contaminants have abated since the last sampling was done.

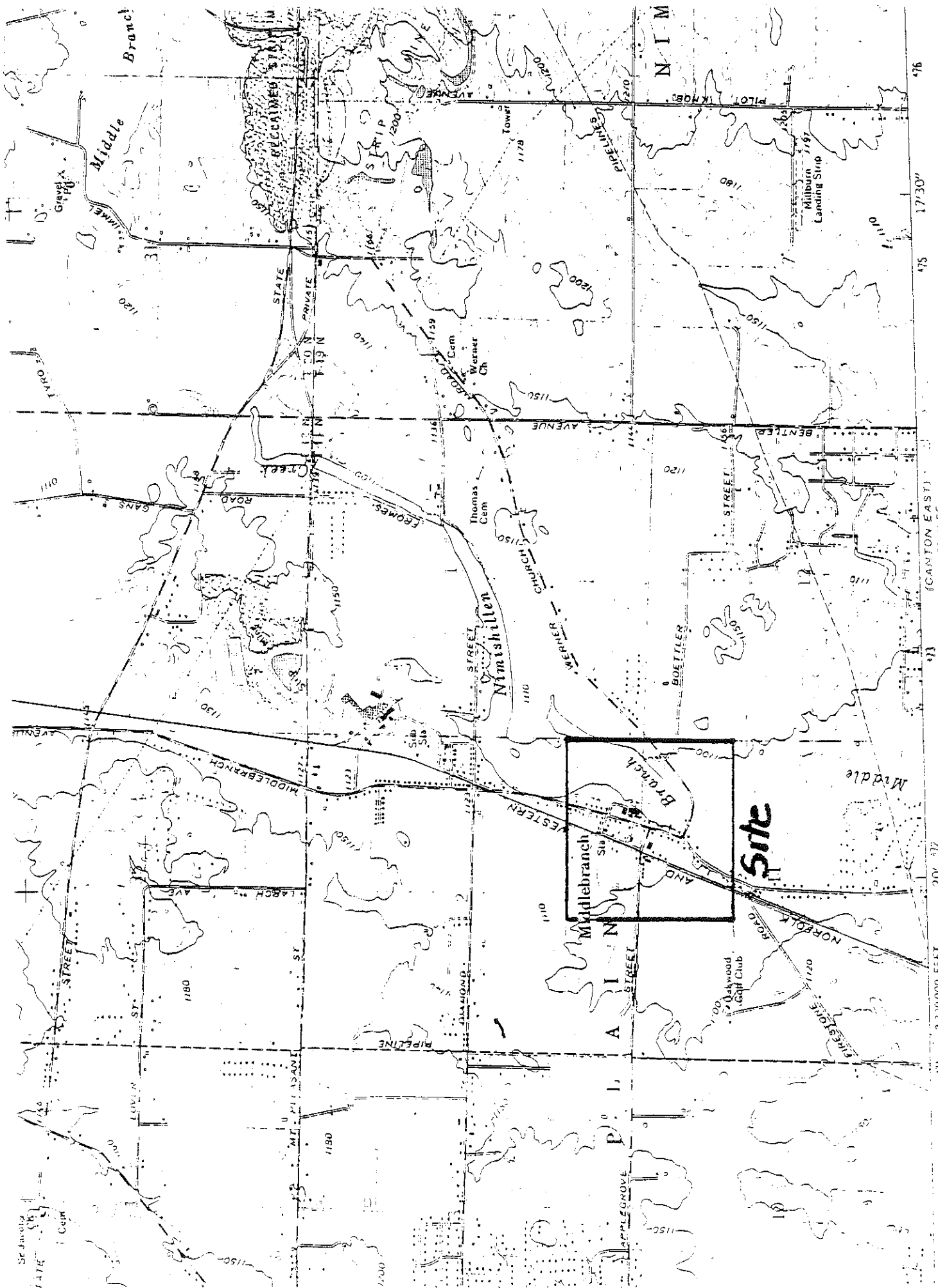
Along with the second or "wet season" round of water sampling a set of water level measurements should be taken to determine if the direction of groundwater flow changes significantly with the seasons as suggested by a comparison of present and previous potentiometric data. This information will have an impact on the interpretation of contaminant distribution as well as any efforts towards remediation.

Respectfully Submitted,

THE OHIO DRILLING COMPANY

By *Thomas J. Perkins*
Thomas J. Perkins, Geologist

TJP:ee

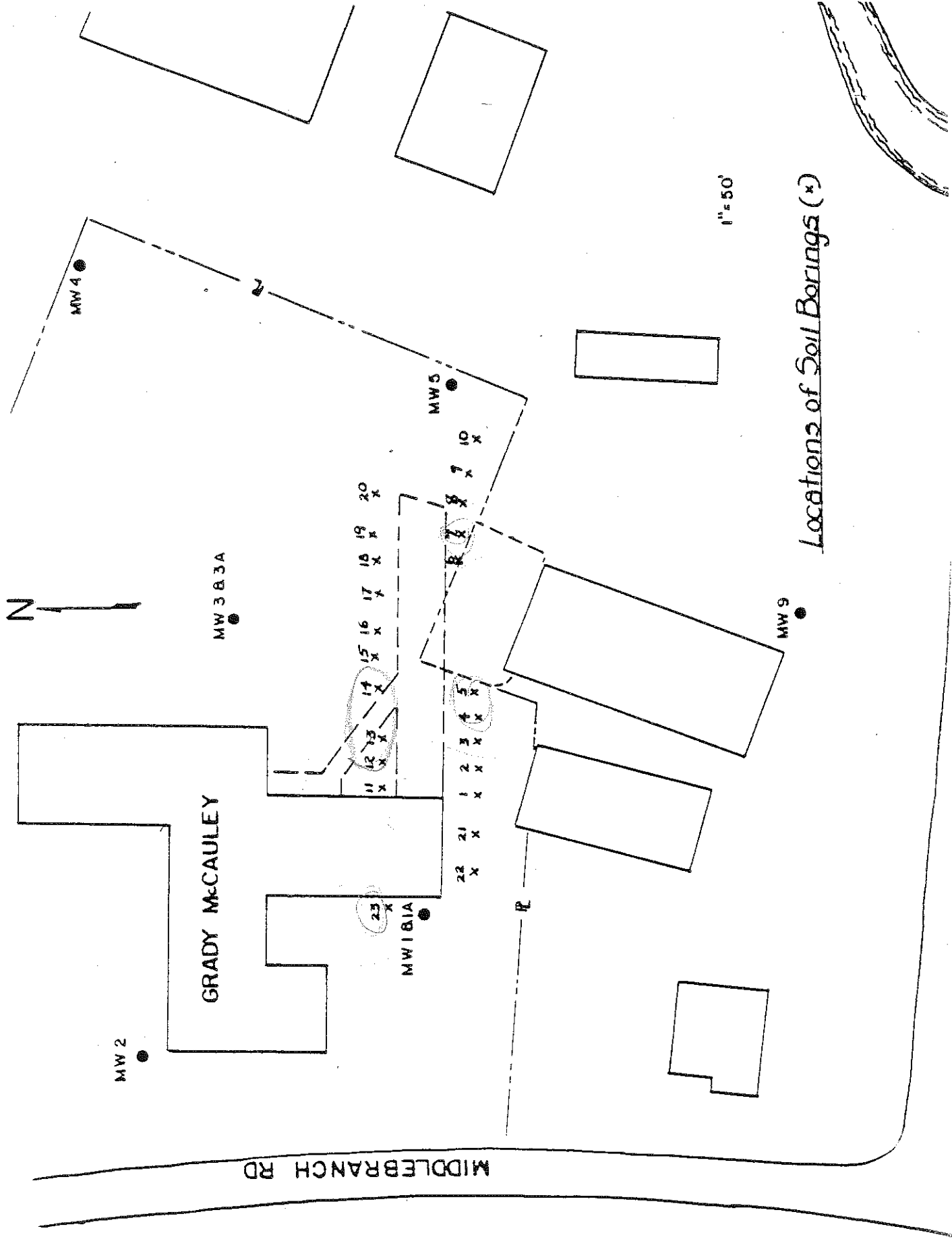


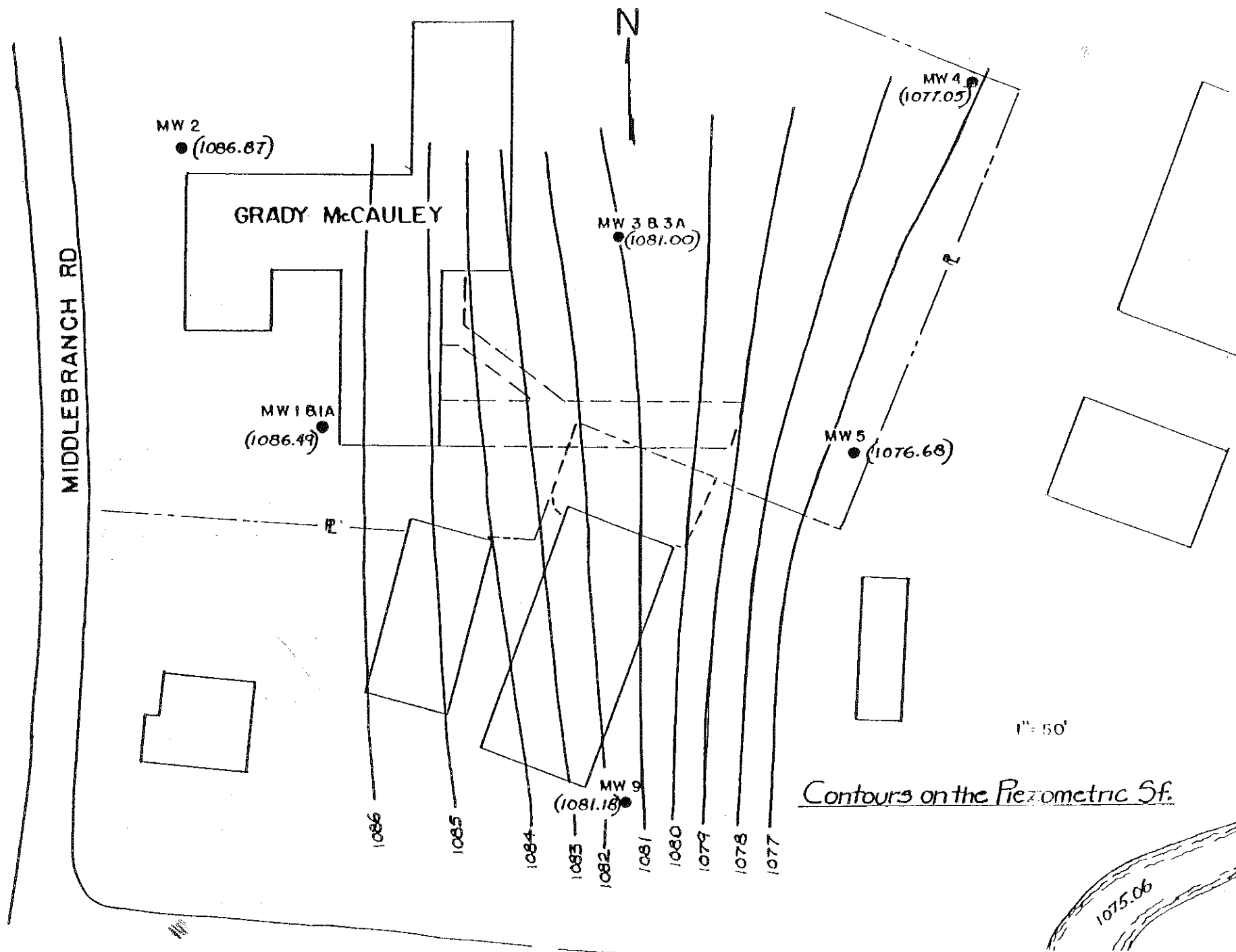
1 MILE

SCALE 1:24000
(CANTON EAST)
4765 IV SE

20' 472
2330000 FEET
41

United States





GRADY-McCAULEY MONITORING WELLS

<u>Well #</u>	<u>Depth to Bedrock</u>	<u>Screen Setting</u>	<u>Elev. Top/Casing</u>
4	26'	19'-24'	1085.70'
5	25'	15'-20'	1084.02'
9	47'	30'-35'	1086.67'

CHEMICAL ANALYSES OF THE SOIL BORINGS
 REPLICATES A,B,C,&D (mg/l) LEAD

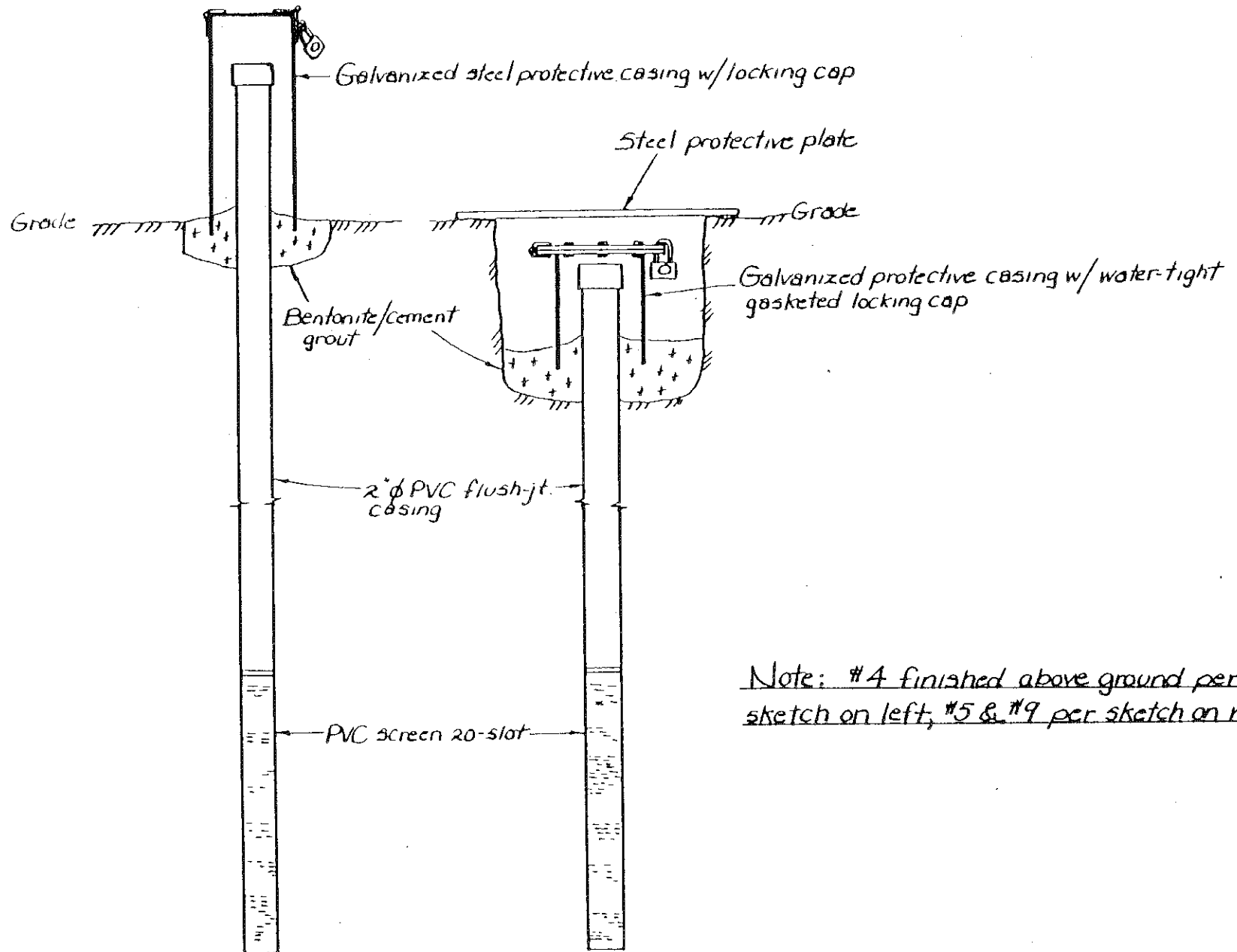
<u>Boring #</u>	<u>A*</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>Volatile Scan**</u>
S1	ND	ND	ND	.07	ND
S2	ND	ND	ND	ND	ND
S3	ND	ND	ND	ND	ND
S4	ND	.10	ND	.06	ND
S5	ND	.18	ND	ND	ND
S6	ND	ND	ND	ND	ND
S7	.09	.13	.06	ND	ND
S8	ND	ND	ND	.07	ND
S9	ND	ND	ND	ND	ND
S10	ND	ND	ND	ND	ND
S11	ND	ND	ND	ND	ND
S12	.26	.24	.16	ND	ND
S13	ND	.11	.06	ND	ND
S14	.17	.28	.18	.14	ND
S15	.06	.14	.06	ND	ND
S16	ND	.08	ND	ND	ND
S17	ND	.08	ND	ND	ND
S18	ND	ND	ND	ND	ND
S19	ND	ND	ND	ND	ND
S20	ND	ND	ND	ND	ND
S21	ND	ND	ND	ND	ND
S22	ND	ND	ND	ND	ND
S23	.08	ND	.08	.13	ND

* Detection limit=.05 mg/l

** Detection limit=10 mg/kg

CHEMICAL ANALYSES OF THE FIRST ROUND OF WATER SAMPLES (DRY PERIOD)
ALL RESULTS IN ug/l, FOR FOUR REPLICATES.

<u>W#</u>	<u>Isophorone</u>	<u>Methylene Chloride</u>	<u>Ethylbenzene</u>	<u>Xylenes</u>
1	ND	ND	7	14
	ND	ND	6	13
	ND	ND	5	11
	ND	ND	5	11
1A	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
2	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
3	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
3A	120	ND	ND	ND
	100	ND	ND	ND
	91	ND	ND	ND
	92	ND	ND	ND
4	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
5	530	ND	ND	ND
	280	ND	ND	ND
	400	ND	ND	ND
	440	ND	ND	ND
9	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND
	ND	ND	ND	ND



Note: #4 finished above ground per sketch on left, #5 & #9 per sketch on right.

1505-9 PCH, TFE

DRILLED FOR Grady-McCauley Graphics, Inc. - Middlebranch, Ohio

DRILLED BY Glyn Davis

DRILLER

COMPLETED Jan. 16, 1987

LOCATION 166 ft. east of Grady-McCauley plant bldg., 354 ft. north of Werner Church Rd.

[illegible]

1500-2000 TEU

DRILLED FOR Grady-McCauley Graphics, Inc. - Middlebranch, Ohio HOLE NO. 5 - 2"
Monitoring Well

LOCATION 49 ft. east of concrete walk edge, 204 ft. north of Werner Church Rd.

[illegible]

MEMORANDUM

[illegible]

March 9, 1987

Lead Concentration in Monitoring Wells - "Dry Season"
for

Grady McCauley Creative Graphics, Inc.

<u>Well No.</u>	<u>Concentration (mg/l)</u>
1	ND
1A	ND
2	ND
3	ND
3A	ND
4	ND
5	ND
9	ND

Note: Detection Level .05 mg/l.

function of differing hydraulic heads due to seasonal variation. Lastly, it is always better to extrapolate from five points rather than three. It is felt all three of these factors are at work here.

Water level elevations taken on Nimishillen Creek indicate the possibility of a hydraulic connection between it and the groundwater system under investigation. Further field work would be necessary to prove the connection beyond a doubt.

SOIL BORING ANALYSES

As stated above, soil borings were obtained at approximately 10 foot intervals paralleling the direction of groundwater flow. One such line originated at leach well near MWland another was begun in the area where materials used to be disposed of by incineration. A location map and data table in the report appendix describe the findings. Each hole was bored to a depth of 5 feet. A composite sample of the soil material was taken and divided into four units for replicate analysis per the Work Plan. Each sample underwent a GC volatile field scan to check for VOC's. The leachate analysis for lead content was conducted using guidelines set forth in US EPA Manual SW846 Method 1310.

Of the twenty-three borings, one showed lead levels in all four replications equal to or exceeding .05 mg/kg. An additional four sample hole locations showed detectable lead in three of the four replicates. Of the remainder, seven showed detectable lead in at least one of the replications. No volatiles were detected in any of the soil borings.

It is felt that the majority of the lead in the soil borings is due to precipitation runoff carrying the material down-slope from local hot spots and depositing it at or near the ground surface. Thus some of the 5-foot soil column would be contaminated while the rest of it would be clean. Hence some of the four sample replicates are clean while others show lead. The areas where three or more of the replicates show detectable lead could be considered spill areas, or at least close to such areas. The highest measured lead level was 0.28 mg/kg at boring S-14.

REVISED 3/23/87

The field work done in 1985 determined that of the first five wells drilled, #3A was the most contaminated. The isophorone level was 300,000 ug/l then, compared to the presently measured replicate mean of 100.8 ug/l. With the groundwater gradient producing flow toward the east one would predict well #5 to show elevated levels of isophorone, which is found to be the case. Wells #4 and #9 were unaffected. The fact that the isophorone concentration in #5 is four times that of #3A would suggest that the plume originated from a one-time or discontinuous source near #3A which has since moved eastward toward the creek in the year and one-half between samplings. The tremendous disparity between the original concentration in #3A of 300,000 ug/l and the much smaller values presently measured for both #3A and #5 could result from several processes working independently or in common. Some of these mechanisms include seasonal down-flushing from precipitation, chemical or biochemical breakdown into other compounds, and the waning of a discontinuous source (as mentioned earlier).

Unfortunately, the total load analyses for the water samples from the monitor wells was not available at this writing. It is expected they will be received in a few days and will be submitted forthwith for review along with an assessment of their impact on the investigation.

CONCLUSION

Two areas of concern are apparent from the site investigation. First, there is an area of soil contamination which centers around the south eastern portion of the plant site. Lead concentrations exceeding .05 mg/kg are found in this area. Their spotty nature and the fact that contamination is not present in all replicates suggests that the contamination is the result of several small spills rather than a massive and prolonged event. The groundwater appears to be contaminated with isophorone is a narrow plume whose major axis is to the east through monitoring wells #3A and #5.

Small amounts of ethylbenzene and xylenes were found to be present in well #1, which represent a localized spill most probably. These contaminants have abated since the last sampling was done.

REVISED 3/23/87

CHEMICAL ANALYSES OF THE SOIL BORINGS
 REPLICATES A,B,C,&D (ug/l) LEAD

<u>Boring #</u>	<u>A*</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>Volatile Scan**</u>
S1	ND	ND	ND	.07	ND
S2	ND	ND	ND	ND	ND
S3	ND	ND	ND	ND	ND
S4	ND	.10	ND	.06	ND
S5	ND	.18	ND	ND	ND
S6	ND	ND	ND	ND	ND
S7	.09	.13	.06	ND	ND
S8	ND	ND	ND	.07	ND
S9	ND	ND	ND	ND	ND
S10	ND	ND	ND	ND	ND
S11	ND	ND	ND	ND	ND
S12	.26	.24	.16	ND	ND
S13	ND	.11	.06	ND	ND
S14	.17	.28	.18	.14	ND
S15	.06	.14	.06	ND	ND
S16	ND	.08	ND	ND	ND
S17	ND	.08	ND	ND	ND
S18	ND	ND	ND	ND	ND
S19	ND	ND	ND	ND	ND
S20	ND	ND	ND	ND	ND
S21	ND	ND	ND	ND	ND
S22	ND	ND	ND	ND	ND
S23	.08	ND	.08	.13	ND

* Detection limit=.05 ug/l

** Detection limit=10 mg/kg

REVISED 3/23/87



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8-13 T.H.C.H. 576

ANALYTICAL REPORT

GRADY McCAULEY

Presented to :

TOM PERKINS

OHIO DRILLING

WADSWORTH/ALERT LABORATORIES, INC.

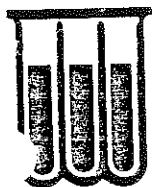
Marvin W. Stephens

Marvin W. Stephens, Ph. D.
Vice President & Director General Laboratory Program

February 17, 1987



CORPORATE AND LABORATORY: Canton, Ohio (216) 454-5809
LABORATORY: Cleveland, Ohio (216) 642-9151
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SOUTHEAST REGIONAL OFFICE: Lexington, South Carolina (803) 957-6590
24-HOUR ALERT LINE: (216) 454-8304



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ORGANIC COMPOUNDS ANALYTICAL REPORT

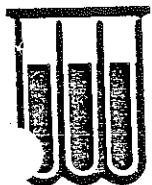
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LABORATORY ID : 6635-28655
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-13 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28655
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-13 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28656
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-13 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.11	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28657
SAMPLE MATRIX : SOIL

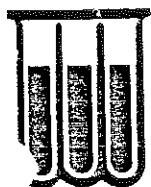
RECEIVING DATE : 1/27/87

SAMPLE ID : S-13 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.06	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28658
SAMPLE MATRIX : SOIL

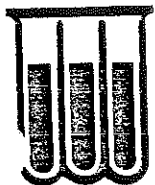
RECEIVING DATE : 1/27/87

SAMPLE ID : S-13 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



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ORGANIC COMPOUNDS ANALYTICAL REPORT

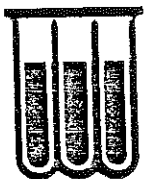
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LABORATORY ID : 6635-28659
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-14 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28659
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-14 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.17	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28660
SAMPLE MATRIX : SOIL

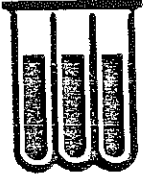
RECEIVING DATE : 1/27/87

SAMPLE ID : S-14 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L.)	DETECTION LIMIT
Lead	0.28	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
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METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28661
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-14 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.18	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28662
SAMPLE MATRIX : SOIL

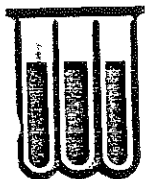
RECEIVING DATE : 1/27/87

SAMPLE ID : S-14 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.14	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

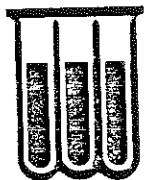
COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28663
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-15 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10-

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28663
SAMPLE MATRIX : SOIL

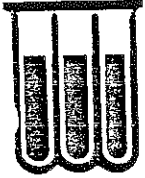
RECEIVING DATE : 1/27/87

SAMPLE ID : S-15 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.06	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28664
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-15 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.14	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28665
SAMPLE MATRIX : SOIL

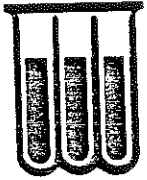
RECEIVING DATE : 1/27/87

SAMPLE ID : S-15 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.06	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28666
SAMPLE MATRIX : SOIL

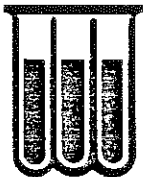
RECEIVING DATE : 1/27/87

SAMPLE ID : S-15 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

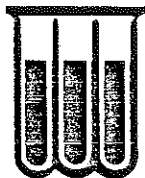
COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28667
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-16 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28667
SAMPLE MATRIX : SOIL

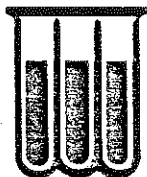
RECEIVING DATE : 1/27/87

SAMPLE ID : S-16 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28668
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-16 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.08	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28669
SAMPLE MATRIX : SOIL

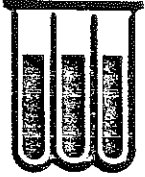
RECEIVING DATE : 1/27/87

SAMPLE ID : S-16 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28670
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-16 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28671
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-17 (A) 0'-5' 1/27/87

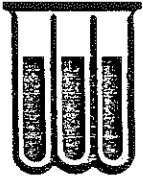
	RESULT (mg/kg)	DETECTION LIMIT
--	----------------	-----------------

GC Volatile Screen

ND

10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28671
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-17 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28672
SAMPLE MATRIX : SOIL

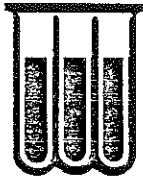
RECEIVING DATE : 1/27/87

SAMPLE ID : S-17 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.08	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28673
SAMPLE MATRIX : SOIL

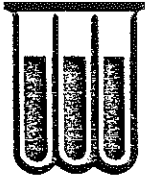
RECEIVING DATE : 1/27/87

SAMPLE ID : S-17 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28674
SAMPLE MATRIX : SOIL

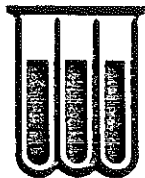
RECEIVING DATE : 1/27/87

SAMPLE ID : S-17 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

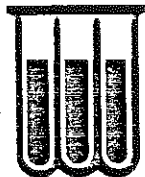
COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28675
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-18 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28675
SAMPLE MATRIX : SOIL

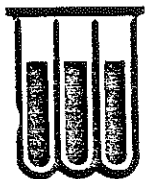
RECEIVING DATE : 1/27/87

SAMPLE ID : S-18 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28676
SAMPLE MATRIX : SOIL

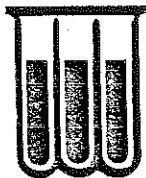
RECEIVING DATE : 1/27/87

SAMPLE ID : S-18 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28677
SAMPLE MATRIX : SOIL

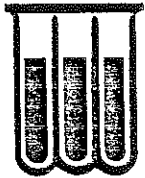
RECEIVING DATE : 1/27/87

SAMPLE ID : S-18 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28678
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-18 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

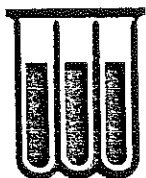
COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28679
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-19 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28679
SAMPLE MATRIX : SOIL

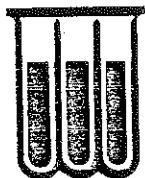
RECEIVING DATE : 1/27/87

SAMPLE ID : S-19 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28680
SAMPLE MATRIX : SOIL

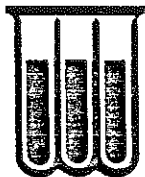
RECEIVING DATE : 1/27/87

SAMPLE ID : S-19 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28681
SAMPLE MATRIX : SOIL

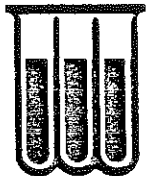
RECEIVING DATE : 1/27/87

SAMPLE ID : S-19 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28682
SAMPLE MATRIX : SOIL

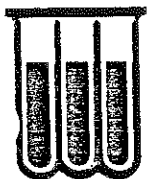
RECEIVING DATE : 1/27/87

SAMPLE ID : S-19 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28683
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : ~~S~~-20 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28683
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-20 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28684
SAMPLE MATRIX : SOIL

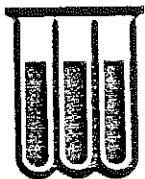
RECEIVING DATE : 1/27/87

SAMPLE ID : S-20 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	NB	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28685
SAMPLE MATRIX : SOIL

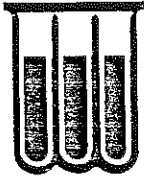
RECEIVING DATE : 1/27/87

SAMPLE ID : S-20 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 8635-28686
SAMPLE MATRIX : SOIL

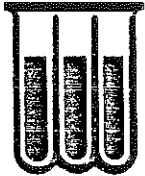
RECEIVING DATE : 1/27/87

SAMPLE ID : S-20 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

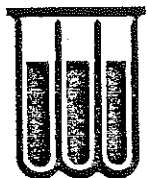
COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28687
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-21 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28687
SAMPLE MATRIX : SOIL

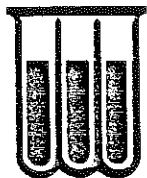
RECEIVING DATE : 1/27/87

SAMPLE ID : S-21 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28688
SAMPLE MATRIX : SOIL

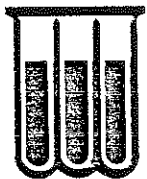
RECEIVING DATE : 1/27/87

SAMPLE ID : S-21 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28689
SAMPLE MATRIX : SOIL

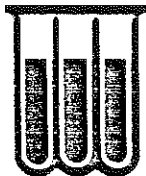
RECEIVING DATE : 1/27/87

SAMPLE ID : S-21 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28690
SAMPLE MATRIX : SOIL

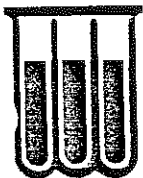
RECEIVING DATE : 1/27/87

SAMPLE ID : S-21 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

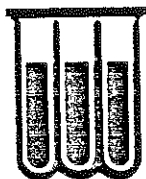
COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28691
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-22 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28691
SAMPLE MATRIX : SOIL

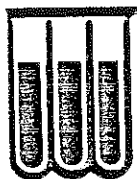
RECEIVING DATE : 1/27/87

SAMPLE ID : S-22 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28692
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-22 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28693
SAMPLE MATRIX : SOIL

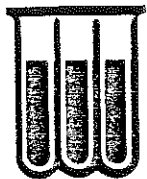
RECEIVING DATE : 1/27/87

SAMPLE ID : S-22 (C) 0'-5" 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28694
SAMPLE MATRIX : SOIL

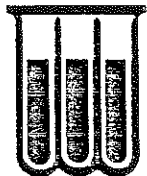
RECEIVING DATE : 1/27/87

SAMPLE ID : S-22 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND.	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

ORGANIC COMPOUNDS ANALYTICAL REPORT

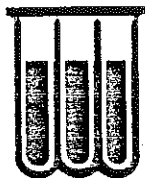
COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28695
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87
EXTRACTION DATE : 1/28/87
ANALYSIS DATE : 1/28/87

SAMPLE ID : S-23 (A) 0'-5' 1/27/87

	RESULT (mg/kg)	DETECTION LIMIT
GC Volatile Screen (Xylenes detected)	ND	10

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28695
SAMPLE MATRIX : SOIL

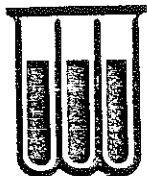
RECEIVING DATE : 1/27/87

SAMPLE ID : S-23 (A) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.08	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28696
SAMPLE MATRIX : SOIL

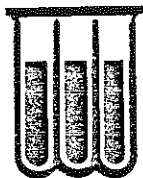
RECEIVING DATE : 1/27/87

SAMPLE ID : S-23 (B) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	ND	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28697
SAMPLE MATRIX : SOIL

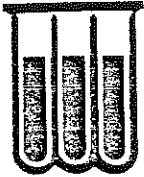
RECEIVING DATE : 1/27/87

SAMPLE ID : S-23 (C) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.08	0.05

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

METALS ANALYSIS REPORT

COMPANY : OHIO DRILLING
LABORATORY ID : 6635-28698
SAMPLE MATRIX : SOIL

RECEIVING DATE : 1/27/87

SAMPLE ID : S-23 (D) 0'-5' 1/27/87

Leachate testing in accordance with USEPA Manual SW846 Method 1310

ELEMENT	RESULT (mg/L)	DETECTION LIMIT
Lead	0.13	0.05

ND - NONE DETECTED

Chain of Custody Record

Project Name: GRAY MC CAULEY

Sampler: FLAN CRABER

[illegible]

	Surrendered By:	Received By:	Date and Time
1	Wm. H. Baker	Wm. H. Baker	1/27/57 2:50 p.m.
2			
3			
4			
5			
6			